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TRANSACTIONS

FOR THE YEAR 1886,

OF THE

ESSEX AGRICULTURAL SOCIETY,

FOR THE

COUNTY OF ESSEX,

IN MASSACHUSETTS,

WITH THE

Sixty-fourth Annual Address,

BY

Rev. JOHN D. KINGSBURY,

OF BRADFORD.

PUBLISHED BY ORDER OF THE SOCIETY.

GLOUCESTER, MASS.:

PRINTED AT THE OFFICE OF THE CAPE ANN ADVERTISER.

1886.

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ADDRESS.

Mr. President:—It is pleasant to speak of Agriculture, the earliest, most constant, most important employment. Agriculture, most enduring art, which still goes on when customs change and races die; renewing its youth with each generation, employing the largest force, aggregating the greatest wealth, and furnishing the basis for all the labor of men. American Agriculture, in the forefront, eager in invention, bold in execution, patient in labor, confident in its resources, with a certain audacity gives its challenge to all the world.

One quarter of the total wealth of our country is employed in cultivating land. The capital invested in farming, including live stock, is twelve thousand millions. Manufacturing, which comes next, is about one third as much. England may boast a larger navy, Russia may be proud of a larger standing army; we "beat our swords into plowshares and our spears into pruning hooks." We study the arts of peace.

Agricultural products are the sure indications of enduring life. Austria turns into the commerce of the world $322,000,000, next comes Britain with 1280 millions, France 2220 millions, Germany 2280 millions, Russia 2545 millions, and last and highest of all, our own land, 3020 millions. We have fifty-six and three-quarter million

hogs, forty-six million cattle, forty-five million sheep, twelve and a quarter million horses. "Our live stock formed in a column five deep, would reach round the world."

We are self-poised. Not an agricultural machine is usable on our farms which is not either an American invention, or is made usable by our own inventors.

It is pleasant to speak of Agriculture, for above all others it is the art most nearly related to life and character and the homes of men.

In ancient times, it was common to exalt the art, while the laborer was forgotten. Egypt glorified the labor, the plow, the soil, but despised the man. It has not been a rare thing to find greater praise given to the beasts that bare the burdens than to the laboring man. They praised labor in the abstract, they sacrificed to the Gods of the harvest, and glorified the winds and showers and even the harvest utensils. Virgil sang sweetly of the art of husbandry, but he portrayed the peasant poor, ignorant, and held helpless under the will of the autocrat. It has been thought an honorable thing to own the soil, but to till it has been a menial service.

Here lies the secret of the slow growth of Agriculture. Man was ignored. The result was that four thousand years passed and man still used the primitive plow, a crooked stick that stirred the ground and could not make a furrow. The old sickle, which was used by the Egyptians, was the only instrument for cutting grain until almost within the memory of man. The grain drill, which was invented by Jethro Tull so late as 1701, was greatly

improved by President Clap of Yale College. The old scythe for cutting grass was hardly improved till, in 1846, Joseph Jenks of Lynn welded the iron back. Poor tools and few improvements show that the men were not developed.

The Ancients did not ignore this industry. Cato wrote a book on Agriculture. The Roman Senate ordered the translation of the books of Mago of Carthage for the common people. Columella describes a good milch cow, "large belly, broad head, black open eyes, graceful horns, smooth and black, ears hairy, jaws straight, dewlap and tail small." That was very good for the time. We could do better now. The Roman orator, Curius, said, "He is not to be counted a good citizen who cannot content himself with seven acres of land." That was early Rome. In later times they made the farm larger. Pliny said, "The earth takes delight in being tilled by men crowned with laurels and decorated with triumphal honors." That was poor poetry and poorer prose. The truth is, the earth delights in being tilled by the man who knows how to raise a crop. Buonaparte established agricultural societies, planted botanical gardens, and founded agricultural professorships, but he did not establish citizenship for the French peasant.

The history of Agriculture is the history of man. The slow growth of the art is because of the neglect of manhood. The Roman orator declared, "There is nothing more beautiful, nothing more profitable than a well cultivated farm," but he left out the nobler idea of the well cultivated man on the farm. Greece drained lakes and

morasses, covered rocks with soil, raised celebrated herds of cattle, but did it by bondmen.

The farmer must be a fully developed man. Slow progress in the art is very suggestive, and alongside of this fact I read in the history of the race that the men of this industry have been depressed by adverse social distinctions or dwarfed by bondage or hampered by an aristocracy. I desire to show that the problem before the farmer is very hard to solve. He will need large wisdom. If he does his work, he must have all his powers developed. If he makes progress, he will be a man of strength and wisdom and power.

He needs the conscious stimulus of personal freedom. He needs to be his own master in work and to own his land, and to have the expectation of the largest reward. Success is never complete otherwise.

Societies of learned men will never create good farming. As well might you make a chemist your cook. The infinite details which enter into the practical work make the problem intricate. It can only be solved by long, earnest, faithful practice. Rich men cannot do the work through their servants. If you take away the inspiration of personal ownership, and the peculiar zest which comes from being principal in the thing, the farmer will live without ambition, and will be like Pollok's character, who

> "Never had a dozen thoughts
> In all his life, and never changed their course,
> But told them o'er, each in its 'customed place,
> From morn till night, from youth till hoary age,
> Lived where his father lived, died where he died."

The modern farmer takes a new departure. He is inspired with new motives. His art — his land — his future is his own. He does not confine himself to old ways or to old tools. The problem is what to raise, when and where and how it may be done for profit. He must know the kind of seed, the time of planting, the nature of the soil and the art of renewing it when worn out. He must know the laws of climate, and be able in all seasons to make the farm a garden whose fruits grow luscious, whose herbs smell of sweet spices, and whose rich harvests ripening in the summer suns are a perpetual wave offering before heaven.

Book farming, if it be the following of untried theories of men who never held the plow or handled the hoe, is worthy the disdain of wise men. But the published results of honest efforts, the cumulative experience of life on the farm growing into rules and laws, and true wisdom, will be welcomed by all men who look for large success.

Chemistry is a friend and ally. The farmer is himself something of a practical chemist. It is something to know that tillage is exposing to the air, loosening, lightening, pulverizing the soil so that the chemical changes can go on and the plant food be passed from solid into fluid, and so feed the growing plant.

If the soil be dry it will never yield a crop, for the nutriment of the growing plant can never be taken up as a solid. The rains fall upon the earth and soften it, percolate through it and dissolve it, and the fibrous roots take it up.

It is a fine thing to know how to make up the soil, to

feed it with fertilizers, to make it just light enough, just hard and solid enough, so that it may retain moisture and yet not be waterlogged.

It is not a more delicate labor for the farmer's wife to raise the white loaf, spongy and moist and elastic to the touch, than for the farmer to make up the hill where the corn will grow that measures a hundred bushels to the acre. Some wise chemist will teach that the only requisite is the nutriment in the hill. The farmer knows better. He knows that straw, plowed under to rot in the heavy soil, lifting it and filling it with capillary interstices, is as needful as the plant food.

He knows that a heavy crop of India wheat, or of close hard turf plowed under, will recover the worn-out soil, not simply by furnishing nutriment, but by putting the land in condition for growth. Many a pasture is rich in material for plant life, which will not furnish good feed. Plow the hard turf under. Let the under soil mellow in sun and shower. Raise a crop from it. Pulverize it with the hoe, and seed it down with clover and red top, and your herds will rejoice in the abundant feed. You might as well sleep in a bed that has not felt the touch of a woman's hand for a twelvemonth as to expect white clover to grow with sweet leaf and honeyed blossom for your cattle on the hard-packed earth. To give the soil the right porosity, to expose it to the air, to give it the right nutriment, requires wisdom.

The problem becomes more intricate when he studies the elements which make up the products. He needs to know not only what he raises, but *why* he raises it.

It is worth while to know that the nitrogenous elements vary in the different grains. These are called Albuminoids. They produce muscle.

Oats, 8 to 14 in 100,
Flint Corn, 7 to 13 in 100,
Sweet Corn, 10 to 15 in 100,
Shorts and Middlings, 7 to 16 in 100,
Wheat, 8 to 15 in 100.

It helps in the feeding of stock to know what will fatten and what will give muscle and vigor. And in raising the crops, it is of use to know what will supply the soil with the lacking element.

A crop of clover, with enormous foliage and its great mass of roots filled with nitrogenous elements, easily raised, and plowed under, gives the earth lightness and richness, and makes the soil ready to bring forth in greatest abundance those very things which are most needed.

It is a help to the farmer to know what kinds of grain will produce fat, what are richest in starch and gum and fat-producing substance. The agricultural chemists call them Carb-hydrates. The composition varies as follows:

Flint Corn, 66 to 77 in 100,
Wheat (same as corn), 66 to 77 in 100,
Sweet Corn, 61 to 77 in 100,
Oats, 57 to 66 in 100,
Shorts and Middlings, 55 to 70 in 100.

Chemistry has aided by suggesting the value of bone dust or bone in solution, which has led to the almost uni-

versal use of superphosphates—concerning which, however, there is such varied opinion. But the variety of opinion is owing to the fact that some superphosphate manufacturers are honest men and others are not. Chemical fertilizers are to be proved by what they will do. By their works ye shall know them.

If a man has an abundance of home-made manure, he is a happy man.

It will appear evident that the man who finds out just what is best to use in renewing the soil will want to do something more than manual labor.

The study of seeds demands attention. The good farmer does not need to be advised on that point. Let me emphasize the fact with an example.

Mr. Hallett, of Brighton, England, chose a single head of good wheat. It was 4 3-8 inches long, and had 47 kernels.

These were planted separately.

From the harvest the best head was selected and planted the same as before.

The result of four harvests was this:

At the first harvest the best plant bore 10 heads, at the second 22, at the third 39, at the fourth 52, and the best head was 8 3-4 inches long.*

It is an illustration of what man can do in developing nature. The world is full of life, but man was placed in the garden to dress and keep it, and the best results are never found without the intelligent and most painstaking industry.

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*See U. S. Census Report 1880, vol. x, p. 403.

The apple, most popular, most useful of all fruits, is in natural state a "wilding crab," having had "many a foul curse for its sourness." Under cultivation it is changed to the most delicious flavor. The Baldwins and Greenings, and Spitzenbergs and Pippins that hang in beauty on the bending boughs are the product of the farmer's art.

The potato which bursts and opens its snowy grains to grace your table and tempt your taste is another trophy of the farmer's art, for in its wild state it is quite an indifferent plant.

There is a kind of farming which is always a fraud. It is fancy farming—a showy cupola on the barn, a pattern fence along the road, a groom with a striped cap, a carpeted office, a fancy wagon with prancing horses for the market, a patent stall for the last imported cow, a race course, herd books and pedigrees, and a big sign over the barn lest you mistake the place,

"The Highland Farm."

The mistake is in the name. It should be the "Highland Buildings."

Farming is not in the cupola and the office, and the herd book and the pattern fence. The true farmer does not despise the luxury of good buildings and equipments. But his pre-eminence is not in these, but in the knowledge of his art.

He knows the nature of every field, how to stir the soil and cast the seed. He knows the signs of opening spring, when the plowshare may first turn the ready soil. He knows the place where the warm sun makes the earth ready for the early salad and the succulent pea. He knows

where to thurst his spade to draw off the water from the dropsical swale, that it may grow into verdure and beauty. He knows the nature of soils, the times and seasons they require. He reads the signs in the heavens.

His crops grow bountifully. The fields vie with each other in the luxury of summer growth, and when the golden days come, it is a joy to see the great harvest gathered in, as one by one the fields yield their increase and patient oxen with measured step bring in the heavy wains.

That man's farm does not need a label nor a pattern fence.

The true American farmer is a model for all the world.

We are thankful to the Old World for what it has given us in the start. We take the Saxony sheep and let them graze in our clover pastures and in the ranches of the West, and it is not uncommon to sell back to the breeders of the Old World, at a decided premium, our improved stock.

About three score years ago, the shorthorns were imported into this county of Essex. They spread rapidly, and in 1873, Mr. Campbell of New York sold a herd for $380,000, and of this, $147,000 was paid by English breeders.

It improved men to come away from England to live in the New World. It appears that it is also good for the cattle and sheep, and there is reason for it. The English farmer is a servant. He does the will of his lord. The American farmer is his own master. We have four million farms. Three million of them are carried on by the men

who own the soil. That is the reason of our pre-eminence.

Our farms are increasing in value from their intrinsic worth. From 1850 to 1860 the value doubled. From 1870 to 1880 the increase was thirty-seven per cent.

Notice also our crops. Russia has 158,000,000 acres in grain. We have only 118,000,000. But our crop is greater on the less acreage by more than a million bushels.

The rate of our increasing production is not less marked. In 1850, 867 millions of grain; in 1860, 1200 millions; in 1870, 1400 millions; in 1880, 2698 millions. Look at the corn crop and its enormous aggregate, 1750 million bushels, or at the increase of wheat, in 1850, 100 millions, in 1860, 173 millions, in 1870, 287 millions, in 1880, 459 millions, one quarter of the entire product of the world. Our grain crop of 1880 was equal to half the value of all the gold ever mined in California.

The substantial character of our people is shown by what we raise and send abroad. We import many things. We buy laces, and wine, silk, spices, tea, coffee. But we sell to the world wheat, cotton, petroleum, steam boilers, agricultural tools, butter, cheese, beef, and it is said that the Queen of England comes to Essex county for ice to cool her drink.

The development of Agriculture in the last one hundred years exceeds by far the progress of all the preceding centuries. It a suggestive fact that this has been the time when greatest progress has been made in bettering the conditions of working men. Labor has dignity. The laborer has rights. Society and the state are not for the few but for all. Learning comes forth from the cloister,

science dispels the fog of superstition, world-wide monarchies give place to the free commonwealth of nations. Men of diverse languages meet in friendly concord, settling disputes of sovereignties. The proud aristocrat retires before the rising generation of free men. The Russian serf goes free. The crescent, proud emblem of imperialism, wanes before the rising cross. The British slave lays down his shackles in the orange groves of the Indies. The dark child of Africa walks through the snowy cotton fields in conscious freedom. The pulse beats strong in the hearts of all the down-trodden of Europe, while multitudes come thronging over the sea, to breathe the air of freedom. It is the grandest of all the centuries. Commerce, "born in the wild-wood, cradled in the deep," spreads its white wings in tempest and calm, bearing evermore over the thoroughfares of the sea the pledges of universal brotherhood, and creates new paths in dark lands before unknown, repeating in the darkest places of earth the Divine command, "Let my people go," and lo! the wilderness and the solitary place is glad and the desert blooms as the rose.

The change is in man. Earth keeps on, ever the same, its sunshine and storm, its rain and dew, its perpetual harvests, giving like a bountiful mother forever, but man has changed; the transformation has been in character.

It is inspiring to look at the part which our American life has had in this ongoing and uplifting. We have no peasantry. We hardly know the meaning of the word. We have to go to the dictionary to learn it.

Fifteen of our Presidents were taken from the farm,

seven of them from hand-to-hand labor on new land. The Father of his Country wrote freely on Agriculture, and he owned one of the first threshing machines that was ever used. Thomas Jefferson had many honors, but among them all there is none that is brighter than this, that he wrote a treatise on the mould board of a plow, and for it received a gold medal from the agricultural society of the Seine.

We have no menial class. At the basis of our society lies this thought, *No labor that is useful is degrading.* False aristocracy rests on the wealth of inheritance, the technicality of tenure, a mere accident of birth, and is always hated and hateful. There is but one nobility. It is found in the man whose character and life command the regard of all who love virtue, the man who gives an equivalent for what he has in wealth or place or power.

We have no peasantry. It is the progeny of feudalism. Our fathers founded the republic. They honored labor. John Winthrop wore the leathern coat, and fed sometimes on corn, and handled the hoe and plow. John Winthrop, distinguished alike for piety and learning, for his knowledge of men and his knowledge of husbandry, for his loyalty to his God and his love of humanity, equally dignified when he sat in state in starched ruff and badge of chief magistracy, or when he tilled the garden or the field he loved so well, — John Winthrop, who landed on the shores of Essex, a Puritan governor and a Puritan farmer, grand progenitor of a race who should be equal in right and privilege and rank, who should exalt all honorable labor

and unite all men by stronger bonds in the peaceful arts of industry.

The dignity of labor! It lies at the base of all our history. It is the secret of our prosperity.

Greece and Rome had somewhat of glory — reached a high place in history. But both fell because of the ostracism of true manhood, the loss of the true dignity of the working men. It is an idea which belongs to our history and runs through the whole of it that labor is capital. It is a factor in society and the state. The terrible tragedy of history is seen in its dread culmination, when degraded and despairing manhood in the struggle of death reaches upward its arms to grasp the neck of power and drag it to the dust.

In old days, war was an industry. Its reward was plunder. It reduced man to ignominy if he was conquered. It did little less for the victor if he were a common soldier. Victory was the assertion of power, the deceptive success in a contest which was soon to be tried over again. It was not the triumph of aggressive force over evil, and the reduction of the obstacles in the way of human advancement. War itself upheld the aristocracy and degraded labor.

It remained for our day and the men of our time to make the pages of history to glow with the record of another thought. Our eyes have looked on a struggle, the grandest struggle the world has ever seen, in which war was for principle. The old monarchies fell in their efforts to repress rising humanity. It was our nation that first sounded the note of war and went down to the field of

blood for the one sole purpose of uplifting degraded manhood to conscious freedom and break off forever the shackles from labor.

Ignorance is opposed to all progress. In the laborer it necessitates clumsy tools, heavy, hard to handle. Ignorance repels machines, regards as an innovation what eases the burden of man. The yeomanry of Britain, so late as 1830, went about destroying the threshing machine. That would never occur on this side the water.

American ideas are abroad. Our life flows in the currents of the world. Races are uplifted by the ongoing of our generations.

The factor of American competition is not only in soil and climate, nor simply in ploughs and reapers. It is not confined to methods and processes. It is also a competition of manhood.

It is the man on the farm, the man with the plough and reaper, the man with thought and skill, eager in invention, with energy of will, carrying thought into action, the American farmer, acute, alert, aspiring, he is the man who changes the aspect and the forces of Agriculture, — the *man* conscious of knowledge, understanding his art, himself a responsible unit in social and political life, choosing his place, casting his ballot, owning his land.

Essex county has 2847 farms, averaging 66 acres. Of these 2561 are cultivated by the owners. The farms of our county are valued at $16,000,000. The product from them is two and a quarter millions a year. We gather every year 5,000 bushels barley, 104,000 bushels corn, 7,000 bushels oats, and our orchard products aggregate

$195,000, and for the market garden $300,000, and it is our own. Our 4500 horses, 1500 oxen, 12,000 cows and 6,000 swine show the best breeding. Our farming is the work of intelligent men. It is a wise saying, "That state is perfectly secure whose soil is owned by its well-meaning citizens."

Notice the contrast,—Ireland! that green isle of the sea, with a soil deep, rich, easily worked, but owned by the aristocrats,—her poor peasantry compelled to give rent so great that they cannot taste the luxury they create. They raise fat cattle and touch them not, raise grain and eat it not. They live in hovels, squalid and wretched, the floor of earth and the roof of thatch, their table spread with potatoes and herbs, their lives bound, aspirations blotted out, their duty to work, their lot to suffer and die. What wonder that their industry is rude, their progress backward, and their very religion hatred of the upper classes, and their prayer and longing and purpose to be free from social oppression.

The conservative says, "Change is impossible;" "The land owner is lord, his right unimpeachable, his prerogative greater than all the rights of humanity;" "To change will be revolution;" "The law must stand though man may die." But the progressive statesman takes sides with humanity. He sees in the thatched cottage of the Irish tenant a man, with sacred rights more enduring than the tenure of laws; sees in the mind and heart, made dormant by the long fruitless toil, the sign of mighty forces which shall come forth to energize the nation and exalt the commonwealth and add lustre to the history of the world, when

England shall listen to her great prime minister and honor herself by making the Irish peasant a man.

The American farmer is not afraid of innovations. He welcomes new discoveries. He is often deceived by the new patent rights. He has a painful experience with the patent bee-hive and the patent churn, the horse-power pitching fork, the patent milking-stool and milking-tubes, the potato digger and the combination feeding trough and the lightning rod. But he remembers the horse rake and the mower, the thresher and the cultivator, the hay tedder and the seed drill. He easily forgets the faulty machines in his storeroom as he rides like a prince on the sulky plough. He easily forgives the last agent of a worthless patent when his horse rake gathers in swift winrows the rustling hay before the coming storm.

In the World's Exhibition in 1852, there was nothing of greater importance than the American Reaper. The grandest problem solved at that time was how to cut the grain of the world's increasing harvest.

The ancient Hebrews could thresh as much grain as the farmer who lived a hundred years ago, six to twelve bushels a day. The horse-power thresher came, cleaning up six hundred bushels, and the steam-power two thousand more, the combined harvesters sending to market the grain from forty acres in a day.

In the old time the farmer could possibly transport his grain a hundred miles. Now the grain of eastern Oregon goes five hundred miles over land and then half way round the globe to find its market.

Agriculture is eminently a progressive art.

The old Spaniards thought they lived on the borders of the world. The Pillars of Hercules were placed on their coin with this legend: "*Ne Plus Ultra*,"—Nothing Beyond. But one day a bold navigator passed through the narrow straits and out over the open sea, and he thrilled mankind with the discovery of a New World. The old Spaniards struck off the little negative and left the motto grander by far, "*Plus Ultra*,"—More Beyond.

That grander motto has become the watchword of the advancing century. Every art, every science, all parties, all societies, and every form of associated labor, takes the new motto. The American farmer, stimulated by all past success, holding fast to all that has been gained in experience, looks hopefully to the future, expecting still larger and better things; new methods, new machinery, new discoveries, by which the art shall be advanced and the earth shall be made to yield yet more abundantly for the sustenance of men.

SIXTY-SIXTH
ANNUAL CATTLE SHOW AND FAIR.

The Cattle Show and Fair of this Society was held in Newburyport on the 28th, 29th and 30th days of September, 1886.

The first day of the Fair was a violent rain storm, which prevented the appearance of stock that was expected. The Society, equal to the emergency, extended the time another day for receiving entries and added a day longer for holding the Fair, changing what would have been a partial failure into a success, the exhibits on the Show Ground exceeding the year previous 42 entries and in the Exhibition Hall 55 entries. The show of Cattle and Horses in point of numbers was not up to the year previous; that of Agricultural Implements and Poultry was larger and far better. The Plowing Match on the third day of the Fair was not as satisfactory, being on poor land and having a trifle over half the number of contestants as last year.

In the Exhibition Hall, the exhibits were arranged in a manner very pleasing and attractive, and their quality compared favorably with previous exhibitions. The attendance after the first day was good.

The Annual Address was given on the second day at the Pleasant street church, by Rev. John D. Kingsbury of Bradford, afterward the Annual Dinner was served in Cadet Hall, followed by speeches from Hon. C. C. Dame, Mayor of Newburyport, Hon. A. C. Varnum, President of Middlesex North Agricultural Society, and Delegate of State Board of Agriculture, Hon. George B. Loring, Judge Mason of the Superior Court, Sheriff Herrick, James P. King, Esq., and others.

The entries in the several departments of the Fair were as follows: —

STOCK, IMPLEMENTS, ETC., ON FREE SHOW GROUNDS.

	Entries.	From Different Cities and Towns.
Fat Cattle,	4	3
Bulls,	15	7
Milch Cows,	7	3
Heifers, First Class,	4	3
Heifer Calves, First Class,	1	1
Heifers, Second Class,	16	5
Heifer Calves, Second Class,	2	1
Working Oxen and Steers,	9	3
Steers,	8	2
Town Teams,	1	1
Brood Mares,	10	5
Stallions, First Class,	1	1
Stallions, Second Class,	3	2
Family Horses,	9	7
Gentlemen's Driving Horses,	8	7
Farm Horses,	3	3
Draft Horses,	9	3
Pairs Farm Horses,	3	3
Pairs Draft Horses,	3	2
Colts for Draft Purposes,	10	7
Colts for General Purposes,	30	11
Swine, First Class,	7	3
Swine, Second Class,	3	1
Sheep,	2	1
Poultry,	82	8
Ploughing,	14	7
Agricultural Implements,	43	10
Carriages,	10	5

Total, 317 entries, from 21 different cities and towns.

IN EXHIBITION HALL.

	Entries.	Different Places.
Dairy,	12	3*
Bread, Honey and Preserves,	70	13
Pears,	323	16
Apples,	311	20
Peaches, Grapes and Assorted Fruits,	99	16
Flowers,	116	12
Vegetables,	321	21
Grain and Seed,	37	11
Counterpanes and Afghans,	75	8
Carpetings and Rugs,	47	9
Articles manufactured from Leather,	2	2
Manufactures and General Mdse.,	28	6
Fancy Work and Works of Art,	242	13
Work of Children, under 12 years,	41	6

Total, 1724 entries, from 29 different cities and towns.

Grand Total, 2041 entries, from 33 different towns and cities, viz.: — Amesbury, 146; Andover, 18; Beverly, 14; Boxford, 52; Bradford, 50; Danvers, 55; Essex, 41; Georgetown, 23; Gloucester, 10; Groveland, 35; Haverhill, 55; Ipswich, 7; Lynn, 39; Lynnfield, 1; Marblehead, 2; Methuen, 16; Middleton, 1; Newbury, 365; Newburyport, 738; North Andover, 3; Peabody, 42; Rockport, 2; Rowley, 73; Salem, 21; Salisbury, 58; Swampscott, 1; Topsfield, 9; Wenham, 10; West Newbury, 140; out of the County, 5; Unknown, 9.*

DAVID W. LOW, *Sec'y.*

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*The exhibitors and places from which 9 butter exhibits came are unknown, from over-carefulness of entry clerk to prevent judges knowing.

REPORTS OF COMMITTEES.

FAT CATTLE.

The Committee on Fat Cattle have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium to J. P. Little, Amesbury, for pair oxen, Devons, 6 years old, weight 4250 pounds.

$8. Second premium to J. P. Little, Amesbury, for pair oxen, Herefords, 5 years old, weight 4050 pounds.

$4. Third premium, to Furmer H. Greeley, Salisbury, for pair oxen 6 years old, weight 3500 pounds.

Ephraim A. Dane, Edward Kent, R. T. Jaques—*Committee.*

STATEMENT OF J. P. LITTLE.

The Devon cattle at Fair time I had owned fifteen months, the Herefords between eleven and twelve months. For the first four months the Devons did all the ox work on the farm. Since that time the four have done the ox work on the farm, drawing in eighty tons of hay each year and hoisting it with a fork on to the mows.

Besides the work on the farm they have done considerable outside teaming, drawing wood, salt hay, manure from the village, &c. During the month previous to the Fair they were worked reclaiming a meadow, pulling trees, ploughing, &c.

In regard to the manner of feeding, they have not been to pasture any since I owned them. I commenced in the early Autumn of 1885 to feed on fodder corn; fed with that nearly all the time, with very little hay all Winter;

then commenced feeding with different kinds of hay, with two quarts of meal per day each, until the first of March, when I commenced feeding four quarts per day each until the present time. I give them clear corn meal dry, twice a day, two quarts at night and two in the morning.

Have seen to the feeding of them myself, and have taken the best of care of them. They were partly fed with green fodder corn this last Fall, the same as the year before. I think that feeding different kinds of hay is better than it is to confine them to one kind. They eat some salt hay every day and relish it.

BULLS—THOROUGHBREDS.

The Committee on Bulls, Thoroughbreds, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to Francis Gulliver, Andover, for Jersey bull, "Chrome Gold," No. 11,222, dropped August, 1883.

$5. Second premium, to H. H. Hale, Bradford, for Jersey bull, "Cicero, Jr.," No. 8,344, 4 years old.

$10. First premium, to Ben: Perley Poore, West Newbury, for Short Horn, "Crave Neck," 2 years old June 5, 1886, bred by Judge Bradley.

$3. Second premium, to Wm. C. Cahill, Danvers, for Ayrshire, "Brown Mars, Jr.," dropped July 22, 1885.

*$5. First premium, to H. H. Hale, Bradford, for Jersey, "Byron G.," No. 14,455, 1 year old.

*$2. First premium, to D. A. Massey, Danvers, for Ayrshire bull calf, "Queer," No. 882, dropped Nov. 9, 1885.

†Your Committee recommend a gratuity of $2 for the Holstein bull entered by S. P. Hale of Newbury.

Wallace Bates, Richard Newell, Elbridge Mansfield, T. K. Bartlett, Joshua H. Chandler—*Committee.*

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*The last two awards were made by Edward Kent, J. M. Rollins, T. G. Ordway — *Supplementary Committee.*

†The Trustees did not suspend the rules for award of gratuity recommended.

MILCH COWS.

The Committee on Milch Cows respectfully submit the following report:

T. N. Cook of Newburyport entered two grade Jersey cows and one Ayrshire cow. He was awarded

$10. First premium, for milch cow;

$10. First premium, for butter cow;

$4. Second premium, for butter cow.

$15. Special premium, was awarded to Jere. Cashman, Newburyport, for best milch cow of any age or breed.

$4. Second premium, to same, for milch cow.

$10. First premium, to Francis Gulliver, Andover, for Jersey cow, "Fanny G.," No. 26,005.

$4. Second premium, to same for Jersey cow, "Alpha Maid," No. 23,635.

Maj. Ben: Perley Poore of Indian Hill, West Newbury, exhibited his thoroughbred Short Horn cow, "Pearl." This cow is a very fine specimen of her class, and judging from the size of her udder and the fine calf by her side, she would have been entitled to the special premium of $15 for the best milker of any age or breed, had her owner entered her as competitor for premium.

It is a matter of regret that so few milch cows are entered for premiums at our Essex county fairs. Of the various branches of agriculture in New England, dairying,

or the production of milk, butter and cheese, is the most important, and must occupy the very first position in the farming of the future.

With an abundance of the purest water gushing from almost every hillside, and the short, sweet grass that may be had in profusion if farmers will take care of their pastures, and, more than all else, markets at our very doors, it seems as though the farmers of the old Bay State ought at least to supply the larger part of the 10,000,000 pounds of butter that are annually furnished us by other States of the Union.

Within a very few years, some people have discovered that butter does not improve with age; that it is never better than when it first comes from the churn; that butter made and consumed in midwinter is much better and has a much finer aroma, if it is properly made, than that made in the preceding June or September and consumed after it has been kept for months. This education of the sense of taste is progressing, and hence the demand for "gilt edge" butter is increasing.

The facilities afforded by improved machinery are such that the farmer, by the outlay of a few hundred dollars, can entirely relieve the good wife from the cares and hard work incident to the manufacture of butter by the old-fashioned method of the shallow pan system, if that can be called a system which was so uncertain in its results.

The paramount importance of dairying to the farmers of this county being conceded, it seems as though milch cows are as deserving of consideration, to say the least, as the "gentleman's driving horse," or the lank nag whose record of two twenty and seven-eighths causes her owner to swell with pride. The owners of horses would refuse to bring their stock to our fairs for exhibition, and very properly, unless covered pens were provided. On the

other hand, farmers are expected to exhibit their milch cows in pens without any shelter whatever. Is it any wonder that the thrifty farmer, who would not allow his milch cows to lie out of doors during the night in cool but fair weather, utterly refuses to confine his stock in open pens and run the risk of exposing them to a cold equinoctial storm, such as prevailed on the first day of the Essex County Fair? As might be expected, very few milch cows are exhibited, there is no competition, and two or three exhibitors carry off all the premiums.

J. D. DODGE, *For the Committee.*

STATEMENT OF T. N. COOK.

To the Committee on Milch Cows:

GENTLEMEN: — We enter for premium our Milch cow, "Quack," grade Ayrshire, six years old. Calved July 5, 1886; driven Sept. 12, 1886, and from July 7 to July 30, averaged 20 1-4 quarts of good milk per day. Manner of feeding, 3 qts. of meal, 3 qts. of shorts, wet, per day; pasture. Yours,

T. N. COOK.

STATEMENT OF T. N. COOK.

To the Committee on Milch Cows:

GENTLEMEN: — We enter for premium our Milch cow "Shaker," seven years old, Jersey. Calved Jan. 2, 1886, calves again Dec. 10, 1886. From May 24 to May 30, inclusive, gave 14 quarts of milk per day. Made in seven days 13 1-2 lbs. of butter. Manner of feeding, 3 quarts of meal, 3 quarts of shorts, wet, per day; pasture.

Yours, T. N. COOK.

STATEMENT OF T. N. COOK.

To the Committee on Milch Cows:

GENTLEMEN: — We enter for premium our Jersey cow,

yellow and white, four years old. Calved Sept. 1, 1886. From Sept. 12 to Sept. 19, gave 13 quarts of milk per day; made 10 1-4 lbs. of butter in seven days. Manner of feeding, 2 quarts of meal, 3 quarts of shorts (wet); pasture. Yours, T. N. Cook.

Milk Statement of Jere. Cashman not received from Committee, it having been lost.

HEIFERS, FIRST CLASS.

The Committee on Heifers, First Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$4. Second premium, to Francis Gulliver, Andover, for Jersey heifer, "Orange Lady," No. 22,170, in milk, dropped Aug. 2, 1883.

$4. First premium, to Francis Gulliver, Andover, for Jersey heifer calf, "Winnie Chrome," dropped Feb. 27, 1886.

$4. First prize, to D. A. Massey, Danvers, for Ayrshire calf, "Mars Dora 2d," dropped July 20, 1884.

$2. Second premium, to D. A. Massey, Danvers, for Ayrshire heifer, "Crocus 4th," dropped Sept. 15, 1884.

Maj. Ben: Perley Poore entered a nice Short Horn heifer, worthy of a first premium, but not entered for one, only for exhibition.

Andrew Dodge, S. F. Newman, Eben True, Frank P. Todd—*Committee.*

HEIFERS, SECOND CLASS.

The Committee on Heifers, Second Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to P. A. Perkins, Newbury, for three year old heifer in milk, grade Ayrshire.

$4. Second premium, to O. F. Lewis, Salisbury, for three year old, grade Jersey.

$4. First premium, to E. S. Toppan, Newburyport, for three year old Short Horn.

$2. Second premium, to Elbridge Tenney, Newbury, for twenty-six months old, grade Jersey.

$4. First premium, to T. K. Bartlett, Newburyport, for twenty months old, Dutch.

$2. Second premium, to J. F. Smith, Salisbury, for fourteen months old, grade Jersey.

$4. First premium, to Jere. Cashman, Newburyport, for calf three months old, grade Jersey.

John Swinerton, T. J. King, J. H. Perkins—*Committee.*

WORKING OXEN AND CATTLE.

The Committee on Working Oxen and Steers have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$12. First premium, to C. U. Burbank, Amesbury, for one pair working oxen.

$10. Second premium, to Carlton Little, Newbury, for one pair working oxen.

$8. Third premium, to Wm. Bryant, West Newbury, for one pair working oxen.

$10. First premium, to R. T. Jaques, Newbury, for one pair four year old steers.

F. R. Allen, Hiram Young, G. F. Drew—*Committee.*

TOWN TEAMS.

The Committee on Town Teams have attended to their

duty, and respectfully report to the Secretary that they have made the following awards:

$20. First premium, to Town of West Newbury, for town team of oxen.

Justin E. Bradstreet, Edward P. Perley, Richard W. Ricker —*Committee.*

STEERS.

The Committee on Steers have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$6. First premium, to C. U. Burbank, Amesbury, for pair two year old steers, weight 2750 lbs.

$5. Second premium, to James Noyes, Newbury, for one pair two year old steers, weight 2330 lbs.

$5. First premium, to Wm. W. Perkins, Newbury, for pair yearling steers, weight 1410 lbs.

$4. Second premium, to Edwin Ilsley, Newbury, for pair yearling steers, weight 1280 lbs.

$4. First premium, to Mrs. M. L. Moody, West Newbury, for pair steer calves, eleven months old.

The cattle were all very good. There were no three year olds, and as there were but two premiums offered for each class, we had to pass some by, but hope they will not be discouraged, but try again another year and win the premium card.

Respectfully submitted,

S. P. HALE, *Chairman.*

STALLIONS, FIRST CLASS.

The Committee on Stallions, First Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$8. First premium, to H. H. Hale, Bradford, for size and good qualities.

The colts entered in this class did not include horses four years old and upwards, of which there were no entries.

The three year old imported Percheron stallion of H. H. Hale of Bradford came within the list of premiums offered, and the committee consider him of great value to the County, and have awarded him the first premium in the class to which he belongs.

The colt of Mr. Parkhurst, a two year old half-bred Percheron, has fine size and shape and action; and the committee, finding no premium for colts of this age, have awarded him a gratuity of $8.*

George B. Loring, Peter Holt, Jr., Edward Harrington, H. F. Longfellow—*Committee.*

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*The Trustees declined to suspend the rules to allow a gratuity, as it belonged in the Colt class for draft purposes.

STALLIONS, SECOND CLASS.

The Committee on Stallions, Second Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to C. C. Hewitt, Newburyport, for stallion for driving purposes.

No others worthy of premium, on account of unsoundness.

Benj. W. Bartlett, R. T. Jaques, Albert Titcomb—*Committee.*

BROOD MARES.

The Committee on Brood Mares have attended to their

duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to C. N. Maguire, Newburyport, for mare and foal.

$6. Second premium, to E. E. Bartlett, Newburyport, for mare and foal.

$4. Third premium, to Frank Perkins, Newbury, for mare and foal.

A. J. Stockbridge, Paul T. Winkley, Jr., B. A. Follansbee—*Committee.*

FAMILY HORSES.

The Committee on Family Horses have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to S. P. Hale, Newbury, for dark brown horse, nine years old, weight 1050 lbs.

$6. Second premium, to John C. Tarlton, West Newbury, for bay horse, nine years old, weight 1050 lbs.

$4. Third premium, to Peter Holt, Jr., North Andover, for gray horse, six years old, weight 1200 lbs.

Chas. H. Gould, Wm. R. Roundy, J. A. Lamson, Wm. B. Carleton—*Committee.*

GENTLEMEN'S DRIVING HORSES.

The Committee on Gentlemen's Driving Horses have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to Peter Holt, Jr., Andover, for white mare, eight years old, weight 1050 lbs.

$6. Second premium, to Jere. Cashman, Newburyport, for seal brown gelding, five years old, weight 1140 lbs.

$4. Third premium, to C. U. Burbank, Amesbury, for bay gelding, five years old, weight 925 lbs.

Nine entries; six appeared on the ground.

A. C. Estes, Albert Kimball, C. N. Maguire—*Committee.*

FARM HORSES.

The Committee on Farm Horses have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to J. A. Ilsley, Georgetown, for farm horse, thirteen years old, weight 1220 lbs.

$6. Second premium, to J. Otis Winkley, Newburyport, for farm horse, eight years old, weight 1060 lbs.

$4. Third premium, to Michael Reddy, Ipswich, for Gray Mare, weight 1200 lbs.

John M. Danforth, C. N. Maguire, W. E. Merrill—*Committee.*

DRAFT HORSES.

The Committee on Draft Horses have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to Peter Holt, Jr., North Andover, for white draft horse, six years old, weight 1250 lbs.

$6. Second premium, to Wm. W. Perkins, Newbury, for mare, eleven years old, weight 1200 lbs.

$4. Third premium, to John Ronan, Newburyport, for bay horse, weight 1160 lbs.

Nathan F. Abbott, C. K. Ordway, D. A. Pettingell, George M. Wonson, Andrew Curtis—*Committee.*

PAIRS OF FARM HORSES.

The Committee on Pairs of Farm Horses have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$12. First premium, to Walter F. Dodge, North Beverly, for pair farm horses.

$8. Second premium, to C. N. Maguire, Newburyport, for pair farm horses.

J. Otis Winkley, J. N. Rolfe, H. M. Goodrich—*Committee.*

PAIRS OF DRAFT HORSES.

The Committee on Pairs of Draft Horses have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$12. First premium, to Charles Bennett, West Gloucester, for pair draft horses, five years old, weight 2510 lbs.

$8. Second premium, to Jere. Cashman, Newburyport, for pair bay horses, weight 2600 lbs.

$4. Third premium, to Jere. Cashman, Newburyport, for pair brown horses, weight 2500 lbs.

Your Committee would recommend that there be more distinction between Draft and Farm Horses. The pair of Mr. Bennett would come within the grade of Farm Horses, as not being used to heavy work as much as the others.

A. H. Knights, E. F. Little, James Noyes, Henry Nason, J. M. Rollins—*Committee.*

COLTS FOR DRAFT PURPOSES, FIRST CLASS.

The Committee on Colts, for Draft, First Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to Harry H. Hale, Bradford, for black mare, three years old, weight 1500 lbs.

No others worth special mention.

Benj. W. Bartlett, Frank W. Evans, Frank P. Todd—*Committee.*

COLTS, FOR DRAFT, SECOND CLASS.

The Committee on Colts, for Draft, Second Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$6. First premium, to E. E. Bartlett, Newburyport, for colt one year old, weight 895 lbs.

$4. Second premium, to A. J. Stockbridge, Rowley, for yearling mare colt, weight 800 lbs.

$6. First premium, to M. B. Chesley, Amesbury, for colt, two years old, weight 925 lbs.

$4. Second premium, to R. Jaques, West Newbury, for colt two years old, weight 1035 lbs.

Jere. Cashman, E. P. Barrett, D. Bradstreet—*Committee.*

COLTS FOR GENERAL PURPOSES, FIRST CLASS.

The Committee on Colts for General Purposes, First

Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to O. N. Fernald, Danvers, for bay mare colt, four years old, weight 1000 lbs.

$6. Second premium, to F. W. Evans, Newburyport, for bay filly, four years old, weight 875 lbs.

$4. Third premium, to C. C. Cook, Bradford, for mare colt, four years old, weight 950 lbs.

$8. First premium, to Geo. H. Whipple, Lynn, for "Jennie D.," three years old, weight 1020 lbs.

$5. Second premium, to Daniel Tenney, Newbury, for chestnut gelding, three years old, weight 900 lbs.

O. S. Butler, D. A. Massey, Henry Nason, F. Gullivar—*Committee.*

COLTS FOR GENERAL PURPOSES, SECOND CLASS.

The Committee on Colts for General Purposes, Second Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$6. First premium, to Woodbury Smith, Rowley, for two year old colt, weight 975 lbs.

$4. Second premium, to Harry H. Hale, Bradford, for two year old colt, weight 930 lbs.

$6. First premium, to B. W. Bartlett, Rowley, for one year old stallion colt.

$4. Second premium, to O. N. Fernald, Danvers, for one year old bay colt, weight 705 lbs.

Nathaniel Shatswell, James Noyes, W. P. Fisher, C. C. Hewett, John Parkhurst—*Committee.*

SWINE, FIRST CLASS.

The Committee on Swine, First Class, have attended to

their duty, and respectfully report to the Secretary that they have made the following awards:

$8. First premium, to Wm. W. Perkins, Newburyport, for grade breeding sow.

$5. Second premium, to S. P. Hale, Newbury, for grade breeding sow with 11 pigs.

$8. First premium, to Michael Reddy, Ipswich, for Jersey red sow with 7 pigs.

$8. First premium, to Edward S. Knights, Newbury, for grade Berkshire boar.

$5. Second premium, to Wm. W. Perkins, Newburyport, for litter of 8 graded Yorkshire pigs.

M. B. Chesley, Andrew Dodge, C. U. Burbank—*Committee.*

SWINE, SECOND CLASS, OR SMALL BREEDS.

The Committee on Swine, Second Class, or Small Breeds, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$8. First premium, to W. W. Perkins, Newbury, for litter of weaned pigs.

$8. First premium, to W. W. Perkins, Newbury, for grade Yorkshire breeding sow.

P. T. Winkley, Daniel M. Davis, Asa T. Newhall, *Committee.*

SHEEP.

The Committee on Sheep have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to Matthew H. Toomey, Newbury, for Coltswold sheep.

$8. First premium, to Matthew H. Toomey, Newbury, for Coltswold buck.

N. W. Moody, J. S. Todd, E. P. Perley—*Committee.*

POULTRY.

The Committee on Poultry have attended to their duty, and respectfully report to the Secretary through the Judge that the following awards have been made:

Diploma. First premium, to E. E. Bartlett, Newburyport, for best breeding pen of Partridge Cochins.

Diploma. First premium, to Eben Smith, Newburyport, for breeding pen Brown Leghorns.

$2.00. First premium, to J. W. Wilson, Amesbury, for pair of White Cochin chicks.

2.00. First premium, to J. W. Wilson, Amesbury, for Buff Cochin chicks.

2.00. First premium, to E. E. Bartlett, Newburyport, for Partridge Cochins.

1.00. Second premium, to Joseph Parsons, (Byfield), Newbury, for Buff Cochin chicks.

2.00. First premium, to W. L. Whipple, Newburyport, for White Leghorn chicks.

2.00. First premium, to Patrick M. Haley, Newburyport, for Plymouth Rock chicks.

1.00. Second premium, to Patrick M. Haley, Newburyport, for Plymouth Rock chicks.

2.00. First premium, to E. M. Woodman, Newbury, for W. C. B. Polish chicks.

2.00. First premium, to J. W. Wilson, Amesbury, for Dark Brahma chicks.

2.00. First premium, to Charles E. Marshall, Rowley, for Houdan fowls.

2.00. First premium, to Charles E. Marshall, Rowley, for Houdan chicks.

2.00. First premium, to D. T. Rowe, Newburyport, for Light Brahma chicks.

1.00. Second premium, to C. S. Bartlett, Newburyport, for Light Brahma chicks.

2.00. First premium, to N. A. Massey, Newburyport, for Silver Spangled Hamburg chicks.

2.00. First premium, to E. W. Buswell, Salisbury, for Wyandotte chicks.

1.00. Second premium, to E. W. Buswell, Salisbury, for Wyandotte chicks.

2.00. First premium, to Wm. P. Perkins, Danvers, for Pekin ducks (old).

2.00. First premium, to Wm. P. Perkins, Danvers, for Pekin ducks (young).

2.00. First premium, to Ben: Perley Poore, West Newbury, for dressed ducks.

2.00. First premium, to Ben: Perley Poore, West Newbury, for dressed chickens.

1.00. First premium, to Mrs. A. M. Perkins, Newbury, for best dozen eggs.

The Judge would recommend notice of the Guinea hens exhibited, for which no premium is offered, belonging to John J. Quill.

WM. F. BACON, *Judge.*

NOTE. — Premiums were awarded on a score of not *less* than 176 points for first premium pairs and 166 points for second premium pairs of fowls and chicks.

PLOUGHING WITH DOUBLE TEAMS.

The Committee on Ploughing with Double Teams have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$12. First premium, to Noyes & Little, Newbury, for ploughing with 2 yoke of oxen, "Eagle" plough.

$10. Second premium, to Wm. P. Coffin, Newbury, for ploughing with 2 yoke of oxen, common plough.

$9. Third premium, to Wm. W. Perkins, Newbury, for ploughing with 2 yoke of oxen, "Eagle No. 20" plough.

Aaron Low, Daniel H. Hale, Edward G. Dole, Allen Smith—*Committee.*

PLOUGHING WITH HORSES.

The Committee on Ploughing with Horses have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to Charles N. Maguire, Newburyport, for ploughing with pair of horses.

$7. Second premium, to S. F. Newman, Newbury, for ploughing with pair of horses.

$5. Third premium, to Walter F. Dodge, North Beverly, for ploughing with pair of horses.

J. N. Rolfe, William Thurlow, John Cashman, T. G. Ordway—*Committee.*

PLOUGHING WITH THREE OR FOUR HORSES.

The Committee on Ploughing with three or four Horses have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to J. Kent Adams, Newbury, for ploughing with four horses, steel Hussey No. 50 plough.

$10. First premium, to Frank Perkins, Newbury, for ploughing with three horses, steel Eagle No. 50 plough.

Isaac F. Knowlton, George F. Averill, Nathan A. Bushby—*Committee.*

PLOUGHING WITH SWIVEL PLOUGH.

The Committee on Ploughing with Swivel Ploughs have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to Jonas M. Rollins, Danvers, for ploughing with two horses and Granger Swivel plough.

C. J. Peabody, Ebenezer Smith—*Committee.*

PLOUGHING WITH SULKY PLOW.

The Committee on Ploughing with Sulky Plough have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to A. J. Stockbridge, Rowley, for ploughing with Cassidy Sulky plough.

The Committee wish to remark that the work done by Mr. Stockbridge compared favorably with that done by the other kind of ploughs. The work was commenced at 17 1-2 minutes past ten and finished at 16 minutes of 11.

Wilbur F. Proctor, Calvin Rogers, Amos Poor—*Committee.*

AGRICULTURAL IMPLEMENTS.

The Committee on Agricultural Implements have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. Diploma and first premium, to J. C. Stanley, Newburyport, for best collection.

$5. First premium, to G. E. Daniels, Rowley, for farm wagon.

$5. First premium, to Geo. E. Daniels, Rowley, for horse cart.

$3. Gratuity, to Geo. E. Daniels, Rowley, for hay wagon.

$5. Gratuity, to Wm. Little, Newbury, for hay wagon.

$3. Gratuity, to George E. Daniels, Rowley, for double sled.

$2. Gratuity, to C. S. Huse, Newburyport, for root cutter.

$5. Gratuity, to F. S. Wright, Pomfret, Ct., for road machine.

$5. Gratuity, to E. K. Preston, Beverly Farms, for hoisting machine.

$2. Gratuity to W. H. Stevens, West Newbury, for incubator.

$2. Gratuity to T. P. Harriman, Andover, for horse shoes.

Aaron Low, G. A. Randall, James Noyes, Andrew Dodge, *Committee.*

CARRIAGES.

The Committee on Carriages have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$2. Gratuity to T. W. Lane, Amesbury, for patent spring road wagon.

$5. Gratuity to T. W. Lane, Amesbury, for light top buggy.

$3. Gratuity to Gilman A. Andrews, Salem, for market wagon.

$2. Gratuity to P. M. Lougee, Newburyport, for duplex gear.

$5. Gratuity to William Poor, Andover, for meat wagon.

Henry Hobbs, David Stiles, Aaron Sawyer—*Committee.*

DAIRY.

The Committee on Dairy have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to No. 9, Elbridge Tenney, Newbury (Byfield), for 7 lbs. butter.

$8. Second premium, to No. 2, W. K. Cole, West Boxford, for 5 lbs. butter.

$6. Third premium, to No. 11, Oliver F. Lewis, Salisbury, for 5 1-2 lbs. butter.

E. H. Potter, N. Longfellow, F. W. Sargent—*Committee.*

STATEMENT OF ELBRIDGE TENNEY.

Seven lbs. of butter, made from the milk of two grade Jersey heifers, Daisy and Pansy, who are 22 months old. Daisy came in the 14th of May and Pansy the 22d of May. Their feed has been one quart of Indian meal and one quart of shorts apiece in the morning, and what they could get in the pasture. I have no place to set my milk or make my butter, only in a corner room in the house. I am 72 years, 9 months old, and do my own work.

STATEMENT OF W. K. COLE.

I enter for the Society's premium a five pound box of butter. This butter is made from the milk of grade Jersey cows. The milk is strained in shallow five quart pans and allowed to stand in the Dairy from 36 to 48 hours; it is then skimmed and the cream put in a jar and thoroughly stirred together, and when enough has collected for a churning, it is churned until it becomes hard, when the buttermilk is drawn off and cold fresh water is turned in, when it is churned two or three minutes longer. It is then taken from the churn and washed, and the buttermilk *thoroughly worked out*, when it is salted, about 1 oz. of salt to the pound of butter, the salt being worked in by hand. It is then immediately put up in five-pound boxes and in balls, and is ready for the market. The milk is kept in a cool place, about 50 degrees. The butter contains no artificial coloring, and we have never had occasion to use any; in fact I never saw any.

STATEMENT OF OLIVER F. LEWIS.

Dairy butter, grade Jersey. Milk set in pans, cream taken off soon as milk sours. Churned with Dash churn. Butter washed, salted 1-2 oz. to pound, with very little working. Milk set in milk-room, opening from kitchen.

BREAD, HONEY AND CANNED FRUIT.

The Committee on Bread, Honey and Canned Fruit have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$3. First premium, to F. E. de Jean, Newburyport, for white bread.

$2. Second premium, to Alice J. Bartlett, Newburyport, for white bread.

$1 Third premium, to J. S. Todd, Rowley, for white bread.

$2. First premium, to Delia Craven, Bradford, Graham improved bread.

$1. Second premium, to Ellen Keefe, Newburyport, for Graham improved bread.

50 cts. Gratuity, to R. S. Tibbets, Newburyport, for steamed cereals.

$3. First premium, to John Preston, Georgetown, for honey.

$1. Gratuity, to Alfred Green, Newbury, for honey.

$3. First premium, to Lizzie Wilson, North Beverly, for collection of jellies and preserves.

$2. Second premium, to Mrs. N. E. Ladd, Groveland, for collection of jellies and preserves.

$1. Gratuity, to Mrs. W. Taylor, Amesbury, for jelly.

50 cts. Gratuity, to Albert Kimball, Bradford, for ten year cider.

50 cts. Gratuity, to George H. Plummer, Newbury, for elderberry wine.

$1. Gratuity, to Eliphalet Griffin, Newburyport, for 6 bottles grape wine.

50 cts. Gratuity, to Mrs. M. de F. Bayley, Newburyport, for mustard.

N. T. Kimball, Mrs. J. Henry Hill, Mrs. Charles B. Emerson, F. W. Sargent, Mrs. L. M. Sargent—*Committee.*

NOTE.—No bread recipes received from Committee.

STATEMENT OF JOHN PRESTON.

I enter for premium ten pounds of comb and one pound of extracted honey. This honey was gathered from fruit blossoms in the month of May by hybrid bees, a cross between Black and Italians, and stored in honey boxes placed on racks over brood frames in Langstroth hives.

PEARS.

The Committee on Pears have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$3. First premium, to Edwin Bates, Lynn, for Bartlett.

$3. First premium, to Abel Stickney, Groveland, for Belle Lucrative.

$3. First premium, to Edwin Bates, Lynn, for Beurre Bosc.

$3. First premium, to Silas Plumer, Newbury, for B. de Anjou.

$3. First premium, to Edwin Bates, Lynn, for Duchess.

$3. First premium, to J. H. Hill, Amesbury, for Dana's Hovey.

$3. First premium, to J. H. Hill, Amesbury, for Lawrence.

$3. First premium, to Edwin Bates, Lynn, for L. Bon de Jersey.

$3. First premium, to W. Huff, Newburyport, for Marie Louise.

$3. First premium to James M. Estes, Peabody, for Onondaga.

$3. First premium, to A. J. Hubbard, Peabody, for Paradise d'Antomne.

$3. First premium, to Silas Plumer, Newbury, for Seckel.

$3. First premium, to Patrick Nasey, Salem, for St. Michael Archange.

$3. First premium, to J. D. Foote, Haverhill, for Sheldon.

$3. First premium, to R. S. Griffith, Newburyport, for Urbaniste.

$3. First premium, to David A. Pettingell, Danvers, for Vicar of Winkfield.

$3. First premium, to J. Henry Hill, Amesbury, for Winter Nellis.

$3. First premium, to Edwin Bates, Lynn, for Mt. Vernon.

$3. First premium, to J. Henry Hill, Amesbury, for Langlier.

$6. First premium, to Edwin Bates, Lynn, for plate of Duchess, 24 specimens.

$8. First premium, to J. Henry Hill, Amesbury, for best collection of varieties recommended for cultivation by this Society.

$6. Second premium, to E. F. Webster, Haverhill, for second best collection.

$4. Third premium, to John O'Brien, Bradford, for third best collection.

$1. Gratuity, to W. E. Ladd, Groveland, for B. de Anjou.

$1. Gratuity, to T. K. Bartlett, Newburyport, for Bartlett.

$1. Gratuity, to J. Hood, Danvers, for Beurre Bosc.

$1. Gratuity, to J. T. Griffin, Newburyport, for Duchess.

$1.50. Gratuity, to T. K. Bartlett, Newburyport, for Beurre Hardy.

$1. Gratuity, to G. J. Johnson, Rowley, for Onondaga.

$1. Gratuity, to Walter B. Allen, Lynn, for Seckel.

$1. Gratuity, to T. P. Hale, Rowley, for B. de Anjou.

$1.50. Gratuity, to W. B. Little, Newbury, for Souvenir de Congress.

$1.50. Gratuity, to M. Stevens, Newburyport, for Beurre Clairgeau.

$1. Gratuity, to B. F. Stanley, Newburyport, for Sheldon.

$1. Gratuity, to George Pettengill, Salem, for Vicar of Winkfield.

$1. Gratuity, to George C. Evans, Rowley, for L. Bon de Jersey.

$1. Gratuity, to Edwin Bates, Lynn, for B. Diel.

$1. Gratuity, to John O'Brien, Bradford, for Lawrence.

$1.50. Gratuity, to E. Bates, Lynn, for Howell.

$1. Gratuity, to Philip B. Adams, Newburyport, for Howell.

$1. Gratuity, to George Pettingell, Salem, for Beurre Bosc.

$1. Gratuity, to A. J. Hubbard, Peabody, for Marie Louise.

$1.50. Gratuity, to C. M. Lunt, Newbury, for Keiffer.

There were three hundred and twenty-four (324) plates presented by one hundred and eight (108) contributors. One hundred and seventeen (117) plates were of the varieties recommended for cultivation in Essex county. There were three (3) collections of the varieties recommended, comprising fifty-eight (58) plates, and six (6) dishes of twenty four (24) specimens each. The balance were on the "miscellaneous" table.

*The Committee would recommend that the following varieties be dropped from the list recommended for cultivation in Essex county: St. Michael Archangel, Mount Vernon and Winter Nelis; and that Howell, Beurre Hardy and Beurre Clairgeau be added to the list.

George Pettingell, W. H. B. Currier, Benj. F. Stanley, Geo. H. Plummer—*Committee.*

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*The recommendations of the Committee were adopted by the Trustees at November meeting.

APPLES.

The Committee on Apples have attended to their duty,

and respectfully report to the Secretary that they have made the following awards:

$3.00. First premium, to Edwin P. Noyes, Newbury, for Baldwins.

3.00. First premium, to F. A. Whitman, Wenham, for Danvers Winter Sweet.

3.00. First premium, to George Buchan, Andover, for Granite Beauty.

3.00. First premium, to C. M. Lunt, Newbury, for Red Russet.

3.00. First premium, to G. W. Gage, Methuen, for McCarty.

3.00. First premium, to D. M. Cole & Son, Boxford, for Roxbury Russet.

3.00. First premium, to W. W. Perkins, Newbury, for Tolman Sweet.

3.00. First premium, to T. K. Bartlett, Newburyport, for Drap d'Or.

3.00. First premium, to B. F. Huntington, Amesbury, for Sweet Baldwin.

3.00. First premium, to C. C. Blunt, Andover, for Hurlburt.

3.00. First premium, to Wm. Burke Little, Newbury, for R. I. Greening.

3.00. First premium, to Wm. Burke Little, Newbury, for Smith Cider.

3.00. First premium, to George B. Austin, West Boxford, for Porter.

3.00. First premium, to D. Bradstreet, Topsfield, for Pickman Pippin.

3.00. First premium, to F. H. Adams, Rowley, for Hunt's Russet.

3.00. First premium, to John Taylor, Amesbury, for Gravenstein.

3.00. First premium, to J. H. Hill, Amesbury, for King of Tompkins County.

3.00. First premium, to John O'Brien, Bradford, for Hubbardston.

1.50. First premium, to S. G. Ashton, Lynn, for Hyslop Crab.

.75. Gratuity, to F. A. Whitman, Wenham, for Crab Apple.

.50. Gratuity, to Charles W. Rogers, Rowley, for Crab Apple.

.50 Gratuity, to Joseph Thurlow, Newburyport, for Crab Apple.

1.50. Gratuity, to T. J. King, West Newbury, for President.

1.50. Gratuity, to C. F. Pousland, Salem, for Glory of the West.

1.50. Gratuity, to Albert Kimball, Boxford, for Ordway.

1.50. Gratuity, to E. F. Webster, Haverhill, for Blush.

1.00. Gratuity, to F. P. Hale, Rowley, for Hunt's Russet.

1.00. Gratuity, to David W. Low, Gloucester, for Mother.

1.00. Gratuity, to David W. Low, Gloucester, for Minister.

1.00. Gratuity, to T. K. Bartlett, Newburyport, for Nonesuch.

1.00. Gratuity, to C. L. T. Atwater, Newburyport, for Duchess of Oldenburg.

1.00. Gratuity, to J. O. Winkley, Newburyport, for Williams.

1.00. Gratuity, to B. F. Huntington, Amesbury, for Ladies' Sweet.

1.50. Gratuity, to C. W. Woods, Newburyport, for Seaview.

1.00. Gratuity, to P. M. Ilsley, Newbury, for Hubbardston.

1.00. Gratuity, to R. Jaques, Newbury, for Seek No Further.

1.00. Gratuity, to W. K. Cole, Boxford, for Dutch Codlin.

1.00. Gratuity, to James Noyes, Newbury, for Roxbury Russet.

1.00. Gratuity, to Isaac P. Noyes, Newburyport, for Rolfe,

1.00. Gratuity, to David Smith, Newburyport, for Hubbardston.

1.00. Gratuity, to John Swinerton, Danvers, for Fall Harvey.

1.00. Gratuity, to W. H. Stevens, West Newbury, for Moody.

1.00. Gratuity, to M. W. Bartlett, West Newbury, for Alexander.

1.00. Gratuity, to C. H. Poor, Bradford, for Sweet Rambo.

1.00. Gratuity, to E. G. Plumer, Newbury, for R. I. Greening.

1.00. Gratuity, to J. M. Lunt, Newbury, for Golden Russet.

1.00. Gratuity, to Valley Farm, West Gloucester, for Sweet Russet.

1.00. Gratuity, to C. B. Anderson, Boxford, for Green Sweet.

8.00. First premium, to J. H. Hill, Amesbury, for best collection of varieties recommended for cultivation.

6.00. Second premium, to S. B. George, Groveland, for collection.

4.00. Third premium, to T. C. Thurlow, West Newbury, for collection.

6.00. First premium, to T. J. King, West Newbury, for best 24 apples, Gravenstein.

The Committee regret that they were unable to give premiums or gratuities to many deserving plates of Apples on account of lack of funds.

Aaron Low, Geo. W. Chadwick, Daniel Plummer, Thomas Hale —*Committee.*

PEACHES, GRAPES AND ASSORTED FRUITS.

The Committee on Peaches, Grapes and Assorted Fruits have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$2.00. First premium, to D. D. Tilton, Newburyport, for Native Seedling peach.

1.00. Gratuity, to Edwin Bates, Lynn, for Seedling peach.

1.00. Gratuity, to George Pettingell, Salem, for Blood Seedling peach.

1.00. Gratuity, to D. D. Tilton, Newburyport, for Imperial peach.

3.00. First premium, to James G. King, Newburyport, for Concord grapes.

3.00. First premium, to S. M. Titcomb, West Newbury, for Worden grapes.

3.00. First premium, to James N. Estes, Peabody, for Brighton grapes.

3.00. First premium, to C. P. Savory, Groveland, for Hartford Prolific grapes.

3.00. First premium, to P. M. Ilsley, Newbury, for Delaware grapes.

3.00. First premium, to S. M. Titcomb, West Newbury, for Martha grapes.

3.00. First premium, to George Walker, Amesbury, for Moore's Early grapes.

6.00. First premium, to Aaron Low, Essex, for Cold House grapes.

4.00. Second premium, to George W. Gage, Methuen, for Cold House grapes.

7.00. First premium, to George W. Gage, Methuen, for best collection of grapes.

1.50. First premium, to E. A. Goodwin, Amesbury, for Niagara grapes.

1.50. Gratuity, to Rufus Goodwin, Haverhill, for Concord grapes.

1.50. Gratuity, to J. W. Goldthwait, Salem, for Brighton grapes.

1.50. Gratuity, to M. W. Bartlett, West Newbury, for Delaware grapes.

1.50. Gratuity, to Samuel Cammett, Amesbury, for Martha grapes.

1.50. Gratuity, to Mrs. Sarah J. Woodward, West Newbury, for Hartford grapes.

4.00. First premium, to Abigail Perkins, Newbury, for best basket of assorted fruit.

3.00. Second premium, to A. J. Hubbard, Peabody, for basket second best fruit.

1.00. Gratuity, to Wallace Bates, Lynn, for Pocklington grapes.

1.00. Gratuity, to Augustus Very, Danvers, for Diana grapes.

1.00. Gratuity, to C. P. Savory, Groveland, for Isabella grapes.

1.50. Gratuity, to Harry Noyes, Newbury, for Iona grapes.

1.50. Gratuity, to Samuel Cammett, Amesbury, for Clinton grapes.

1.50. Gratuity, to Edwin Bates, Lynn, for Lombard plums.

1.00. Gratuity, to J. Otis Winkley, Newburyport, for Lombard plums.

1.00. Gratuity, to T. C. Thurlow, West Newbury, for Riene Claude plums.

1.50. Gratuity, to Isaac P. Noyes, Newburyport, for Champion quince.

1.50. Gratuity, to E. F. Webster, Haverhill, for Orange quince.

1.00. Gratuity, to C. R. Todd, Newburyport, for Orange quince.

.50. Gratuity, to E. H. Richardson, Rowley, for Orange quince.

.75. Gratuity, to Lizzie Peirson, Newburyport, for blackberries, Lawton.

.75. Gratuity, to Mrs. J. Henry Hill, Amesbury, for strawberries, Miner's Prolific.

J. Henry Hill, B. F. Huntington, Thomas P. Hale — *Committee.*

FLOWERS.

The Committee on Flowers have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$3.00. First premium, to Mrs. T. W. Goodwin, Newburyport, for foliage plants.

3.00. First premium, to Mrs. T. W. Goodwin, Newburyport, for parlor bouquets.

2.00. First premium, to Mrs. T. W. Goodwin, Newburyport, for hand bouquets.

3.00. First premium, to Wm. Merrill, West Newbury, for cut flowers.

2.00. Second premium, to Wm. H. Bayley, Newburyport, for cut flowers.

1.00. First premium, to Mrs. T. W. Goodwin, Newburyport, for 4 Ferns in pots.

1.00. First premium, to Mrs. T. W. Goodwin, Newburyport, for 4 Coleus in pots.

1.00. First premium, to Mrs. T. W. Goodwin, Newburyport, for 1 Begonia in pot.

1.00. First premium, to Greenleaf Dodge, Newburyport, for best plant not from greenhouse.

1.00. First premium, to Mrs. A. R. Gillett, Newburyport, for bouquet of garden flowers.

1.00. First premium, to Miss L. C. Bayley, Newburyport, for basket of garden flowers.

1.00. First premium, to E. & C. Woodman, Danvers, for Carnation Pinks.

1.00. First premium, to Wm. H. Bayley, Newburyport, for Zinnias.

1.00. First premium, to William Tenney, Newburyport, for Everlastings.

2.00. First premium, to William Merrill, West Newbury, for floral design.

5.00. First premium, to Mrs. C. N. S. Horner, Georgetown, for native plants.

3.00. Second premium, to Eben True, Jr., Amesbury, for native plants.

2.00. First premium, to A. Shirley Ladd, Groveland, for arrangement native flowers and autumn leaves.

1.00. First premium, to William B. Coffin, Newburyport, for roses, 3 varieties.

.50. Gratuity, to Miss Lizzie Libby, Newburyport, for box Coleus.

3.00. Gratuity, to T. C. Thurlow, West Newbury, for evergreens, etc.

1.00. First premium, to T. J. King, West Newbury, for garden dahlias.

1.00. First premium, to T. J. King, West Newbury, for bouquet dahlias.

1.00. Gratuity, to William Graves, Newburyport, for Amaranthus tricolor.

1.00. Gratuity, to Charles Adams, Newbury, for Amaryllis.

1.00. Gratuity, to Miss A. Edwards, Newburyport, for collection pansies.

.50. Gratuity, to Wm. P. Lunt, Newbury, for plate pansies.

.50. Gratuity, to Mrs. D. R. Parker, Groveland, for verbenas.

.50. Gratuity, to A. Shirley Ladd, Groveland, for verbenas.

1.00. Gratuity, to Thomas Capers, Newburyport, for Guernsey lily.

1.00. Gratuity, to Mrs. C. N. S. Horner, Georgetown, for Essex county ferns.

.50. Gratuity, to Miss H. M. Smith, Newburyport, for autumn leaves and flowers.

.50. Gratuity, to Miss Winifred Pingree, Newburyport, for native grasses.

.50. Gratuity, to J. C. Smith, Newburyport, for cut flowers.

1.50. Gratuity, to J. L. Willey, Lynn, for collection dahlias.

.50. Gratuity, to David Mighill, Boxford, for wild flowers.

.50. Gratuity, to Mrs. C. W. Nelson, Georgetown, for Begonia.

.50. Gratuity, to Wm. Merrill, West Newbury, for snapdragon.

.50. Gratuity, to Mrs. C. D. Rowe, Newburyport, for cross of wild flowers.

.50. Gratuity, to Mrs. P. H. Lunt, Newburyport, for choice plant.

.50. Gratuity, to Thomas Capers, Newburyport, for gladiolus.

1.50. Gratuity, to J. A. Kenniston, Newburyport, for collection dahlias.

1.50. Gratuity, to Fred. Hibbs, Amesbury, for collection.

The display of Flowers and Foliage Plants at our annual exhibitions is every year increasing in extent and general excellence. This year, owing to the severe drought, the contributions were not so numerous, nor the specimens as perfect, as in some previous seasons; but the exhibit on the whole was a good one — very creditable to a County Fair — especially one that has always been considered more agricultural than horticultural. The hall arrangements were very creditable to those who had them in charge, and we think the plan for displaying the flowers a good one. The Society has very generously, during the past year, furnished stands and bottles for exhibiting specimens, and as more will soon be needed, we suggest that bottles with wider mouths would be more convenient and better adapted to the purpose.

As most of our income is derived from the sale of tickets to the Hall — and one of the greatest attractions (if not *the* greatest) in the Hall is the Flower Department — the wisdom of these appropriations is evident. We would suggest the importance of increasing these appropriations from year to year, offering higher premiums, not for more but *better* specimens of the various plants and flowers, for which premiums are offered.

Many exhibitors appear to be ignorant or careless in regard to the rules by which committees are governed.

These rules and regulations are all to be found in the printed premium list of the society, which can be obtained of the Secretary, or from any Committee. For instance, a premium is offered for the best twelve dahlias: some person may exhibit hundreds of specimens in our general collection; unless twelve separate dahlias are set apart by themselves, they are not considered as competing for a premium. No Committee can look through a large collection and select out twelve flowers, which in their opinion are better than any other twelve in the Hall, and do this through the whole list, in the very short time allowed them. The printed rules should be studied by every exhibitor who expects to compete for a prize. If this was done there would be less of fault-finding and disappointment.

The labor of many of the Hall Committee is very great during the limited time allotted to them; and we would make this suggestion to be thought over, and possibly to be acted upon at some future time, viz., that all the afternoon, until evening of the first day, be allowed the Hall Committees to examine and award the premiums; and that during such examination, everyone except the Committees and proper officers be strictly excluded from the room. Also that the exhibition at the Hall be continued another day, making two whole days and two evenings, in which it will be open to the public.

T. C. Thurlow, Mrs. C. N. S. Horner, Mrs. L. H. Bowdoin, Wm. Huff, *Committee.*

VEGETABLES.

The Committee on Vegetables have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$3. First premium, to J. C. Stanley, Newburyport, for Boston market tomato.

$3. First premium, to T. G. Bradley, West Newbury, for Ruta Baga turnips.

$3. First premium, to William Huff, Newburyport, for parsnips.

$3. First premium, to Wm. Huff, Newburyport, for purple top turnips.

$3. First premium, to William Huff, Newburyport, for Hubbard squashes.

50 cts. Gratuity, to William Huff, Newburyport, for sweet potatoes.

$2. Second premium, to T. K. Bartlett, Newburyport, for Stone Mason cabbage.

$1.50. Gratuity to T. K. Bartlett, Newburyport, for yellow Ruta Bagas.

$3. First premium, to T. K. Bartlett, Newburyport, for white Ruta Bagas.

$3. First premium, to S. F. Newman, Newbury, for Savoy cabbages.

$3. First premium, to S. F. Newman, Newbury, for Fottler Drumhead cabbages.

$2. Second premium, to S. F. Newman, Newbury, for Brunswick cabbages.

$3. First premium, to S. F. Newman, Newbury, for red onions.

$3. First premium, to Alfred Green, Newbury, for Beauty of Hebron potatoes.

$3. First premium to B. F. Huntington, Amesbury, for Clarke's No. 1 potatoes.

$3. First premium, to B. F. Huntington, Amesbury, for Pearl of Savoy potatoes.

$3. First premium, to W. Burke Little, Newbury, for Early Rose potatoes.

$3. First premium, to E. G. Nason, West Newbury, for Turban squashes.

$3. First premium, to Wm. H. Greenleaf, Salisbury, for Marrow squashes.

$3. First premium, to W. H. Greenleaf, Salisbury, for Essex Hybrid squashes.

$3. First premium, to Wm. H. Greenleaf, Salisbury, for cauliflowers.

$3. First premium, to W. K. Cole, West Boxford, for cranberries.

$2. Second premium, to J. M. Danforth, Lynnfield, for cranberries.

$2. First premium, to W. P. Smith, Rowley, for White Plume celery.

$3. First premium, to M. Andrews, West Newbury, for red cabbages.

$3. First premium, to R. Jaques, Newbury, for white flat turnips.

$3. First premium, to Aaron Low, Essex, for Cardinal tomatoes.

$3. First premium, to W. Burke Little, Newbury, for turnip beets.

$3. First premium, to Wm. W. Perkins, Newbury, for Stone Mason cabbage.

$3. First premium, to Aaron Low, Essex, for Corey sweet corn.

$3. First premium, to Aaron Low, Essex, for Perry's Hybrid Sweet corn.

$3. First premium, to G. B. Austin, West Boxford, for Marblehead squashes.

$3. First premium, to E. & C. Woodman, Danvers, for Livingston tomatoes.

$3. First premium, to Aaron Low, Essex, for best collection tomatoes.

50 cts. Gratuity, to Wm. H. Bayley, Newburyport, for White Plume celery.

$3. First premium, to S. F. Newman, Newbury, for Danvers onion.

50 cts. Gratuity, to Stephen P. Hale, Newbury, for Clarke's No. 1 potatoes.

$3. First premium, to B. F. Huntington, Amesbury, for Short Horn carrot.

$1. Gratuity, to B. F. Huntington, Amesbury, for collection of potatoes.

$2. First premium, to John J. Nason, Amesbury, for water melon.

$3. First premium, to John J. Nason, Amesbury, for Danvers Intermediate onion.

50 cts. Gratuity, to Richard Jaques, Newbury, for Clarke's No. 1 potatoes.

50 cts. Gratuity to Richard Jaques, Newbury, for Beauty of Hebron potatoes.

50 cts. Gratuity to Richard Jaques, Newbury, for Sunrise potatoes.

$3. First premium, to Richard Jaques, Newbury, for Flat onions.

$1. Gratuity to Richard Jaques, Newbury, for parsnips.

$2. Second premium, to Richard Jaques, Newbury, for Savoy cabbage.

50 cts. Gratuity to R. T. Jaques, Newbury, for Danvers onions.

50 cts. Gratuity, to W. W. Perkins, Newbury, for Silver Skin onion.

$2. First premium, to W. W. Perkins, Newbury, for musk melons.

$2. First premium, to W. W. Perkins, Newbury, for nutmeg melons.

50 cts. Gratuity to W. W. Perkins, Newbury, for Egyptian beets.

$1. Gratuity, to Edwin Bates, Lynn, for mammoth squash.

$3. First premium, to Edwin Bates, Lynn, for Mangold Wurtzels.

$1. Gratuity, to William Thurlow, Newburyport, for collection of potatoes.

50 cts. Gratuity, to James Noyes, Newbury, for Clarke's No. 1 potatoes.

$1. Gratuity, to James Ilsley, Newbury, for string of onions.

50 cts. Gratuity, to C. M. Bayley, Newburyport, for White Plume celery.

50 cts. Gratuity, to S. W. Goldthwait, Danvers, for celery.

$1. Gratuity, to J. F. Dale, Danvers, for collection of herbs.

$2. Second premium, to S. A. Jaques, West Newbury, for Red cabbage.

$1. Third premium, to Andrew Lane, Rockport, for cranberries.

50 cts. Gratuity, to O. F. Lewis, Salisbury, for cranberries.

50 cts. Gratuity, to M. P. Holland, Newburyport, for Boston Market celery.

$1. Gratuity, to Daniel W. Bradstreet, Rowley, for Belle potatoes.

$1. Gratuity, to M. M. Ridgway, West Newbury, for Danvers onion.

$1. Gratuity, to M. M. Ridgway, West Newbury, for Queen of the Valley potatoes.

$2. Second premium, to Charles R. Anderson, Boxford, for cauliflowers.

50 cts. Gratuity, to Wm. P. Smith, Rowley, for canteloupe melons.

50 cts. Gratuity, to M. Walsh, Groveland, for Beauty of Hebron potatoes.

50 cts. Gratuity, to Mrs. Samuel Stevens, Plum Island, for cranberries.

50 cts. Gratuity, to C. H. Poor, Bradford, for turnip beet.

50 cts. Gratuity, to Daniel Plummer, Newbury, for Essex potatoes.

$1.50. Gratuity, to G. W. Marsh, Newburyport, for Danvers onion.

50 cts. Gratuity, to G. W. Marsh, Newburyport, for Mammoth peppers.

50 cts. Gratuity, to Cornelius Sullivan, Newbury, for Queen of the Valley potatoes.

$1. Gratuity, to M. B. Chesley, Amesbury, for collection of potatoes.

50 cts. Gratuity, to M. B. Chesley, Amesbury, for Danvers Flat onion.

50 cts. Gratuity, to Wm. B. Foster, Beverly, for Sweet potatoes.

$8. First premium, to Aaron Low, Essex, for best collection of vegetables.

$6. Second premium, to Robert Thornton, Salisbury, for second best collection of vegetables.

THOMAS CAPERS, *Chairman.*

GRAIN AND SEED.

The Committee on Grain and Seed have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$1.00. First premium, to S. M. Titcomb, West Newbury, for peck shelled corn.

1.00. First premium, to E. G. Nason, West Newbury, for peck Bald wheat.

1.00. First premium, to C. K. Ordway & Son, West Newbury, for peck Silver Hull buckwheat.

5.00. First premium, to S. Longfellow, Groveland, for one trace Field corn.

3.00. Second premium, to E. G. Nason, West Newbury, for 25 ears Field corn.

2.00. Third premium, to G. H. Plumer, Newbury, for 25 ears Field corn.

*3.00. First premium, to Enoch C. Curtis, Amesbury, for 25 ears Yellow Rice Pop corn.

*2.00. Gratuity, to John J. Mason, Amesbury, for one trace White Rice Pop corn.

1.00. Gratuity, to J. H. Tenney, Rowley, for Improved Canada corn.

8.00. First premium, to J. J. H. Gregory, Marblehead, for collection of seed (200 varieties).

3.00. Second premium, to Aaron Low, Essex, for collection of seeds (189 varieties).

James P. King, Rufus Kimball, M. W. Bartlett, N. N. Dummer, E. L. Wildes—*Committee.*

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*Note.—John J. Mason would have received first premium for Pop Corn had he complied with the rules of the Society by not having more than the number of ears for which premium was offered. The awards were changed by the Trustees.

COUNTERPANES AND AFGHANS.

The Committee on Counterpanes and Afghans have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$4.00. First premium, to Mrs. Reuben Jackman, Ipswich Bluffs, for silk quilt.

2.00. Second premium, to Miss A. W. Currier, Newburyport, for silk quilt.

1.00. Gratuity, to Miss Kate Buckley, Newburyport, for silk quilt.

1.00. Gratuity, to Mrs. J. F. Rose, Newburyport, for quilt.

1.00. Gratuity, to Mrs. George Peckham, Newburyport, for quilt.

1.00. Gratuity, to Annie H. Knight, Newbury, for silk quilt.

.50. Gratuity, to Mrs. Mary A. Beason, Newburyport, for quilt.

1.00. Gratuity, to Miss L. C. Ireland, Newburyport, for silk quilt.

1.00. Gratuity, to Miss Alice K. Noyes, Newbury, for silk quilt.

2.00. Gratuity, to Mrs. Sarah D. Peabody, Topsfield, for silk quilt.

1.00. Gratuity, to Mrs. James P. Folsom, Georgetown, for quilt.

1.00. Gratuity, to Mrs J. R. Chase, Newburyport, for quilt.

1.00. Gratuity, to Mrs. John Caldwell, Newburyport, for silk quilt.

1.00. Gratuity, to Mrs. F. Adams, Newburyport, for silk quilt.

1.00. Gratuity, to Miss Nellie Stanley, Newburyport, for silk quilt.

4.00. Gratuity, to Mrs. Wm. E. Prescott, Georgetown, for afghan.

1.00. Gratuity, to Miss Sarah Bogardus, Newburyport, for afghan.

.50. Gratuity, to Mrs. Frank A. Whitman, Wenham, for afghan.

1.00. Gratuity, to Miss Susie Meader, Newburyport, for afghans.

.50. Gratuity, to Mrs. Daniel D. Adams, Newbury, for afghans.

.50. Gratuity, to Mrs. Wm. S. Coffin, Newburyport, for afghan.

.50. Gratuity, to Mrs. A. J. Haynes, Newburyport, for quilt.

.50. Gratuity, to Abby J. Quill, Newburyport, for quilt.

.50. Gratuity, to Mrs. Wm. S. Coffin, Newburyport, for quilt.

1.00. Gratuity, to Annie G. Mumford, Newburyport, for afghan.

1.00. Gratuity, to Mrs. J. H. Bartlett, Newburyport, for afghan.

.50. Gratuity, to Carrie L. Porter, Newburyport, for quilt.

Miss Clara A. Hale, Mrs. T. C. Thurlow, Mrs. A. W. Smith—*Committee.*

CARPETS AND RUGS.

The Committee on Carpets and Rugs have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$4.00. First premium, to John H. Balch, Newburyport, for velvet carpet.

.00. First premium, to Mrs. Cyrus K. Ordway, West Newbury, for rug.

2.00. Second premium, to Mrs. Moses E. Cook, Newburyport, for braided rug.

.75. Gratuity, to Mrs. T. N. Cook, Newburyport, for drawn-in rug.

.50. Gratuity, to Mrs. Jere. Lunt, Newburyport, for log cabin rug.

.50. Gratuity, to Mrs. George H. Plummer, Newbury, for rug.

.75. Gratuity, to Mrs. J. C. Lang, Newburyport, for 2 lamb's tongue rugs.

.75. Gratuity, to Mrs. George Jackson, Newburyport, for braided rug.

.50. Gratuity, to Mrs. Reuben Jackman, Ipswich Bluffs, for button rug.

.50. Gratuity, to Mrs. E. P. Bradley, Newburyport, for knit rug.

.50. Gratuity, to Mrs. S. Page Lake, Newburyport, for lamb's tongue rug.

.75. Gratuity, to Mrs. Henry Page, Newburyport, for felt rug.

.50. Gratuity, to Mrs. S. J. Woodward, West Newbury, for woven rug.

1.00. Gratuity, to Mrs. D. P. Nelson, West Newbury, for kid rug.

.50. Gratuity, to Mrs. M. C. Bridges, West Newbury, for button rug.

.50. Gratuity, to Miss Annie True, Amesbury, for rug.

1.00. Gratuity, to Mrs. Charles Pool, Rockport, for rug.

.50. Gratuity, to Miss L. Bradbury, Newburyport, for rug.

.50. Gratuity, to Mrs. William Pearson, Newburyport, for rug.

1.00. Gratuity, to Mrs. Elbridge Tenney, Newbury, Byfield, for rug.

.50. Gratuity, to Mrs. Hector Little, Newburyport, for rug.

1.00. Gratuity, to Mrs. J. R. Chase, Newburyport, for rug.

.50. Gratuity, to Mrs. George L. Gillett, Newburyport, for rug.

.50. Gratuity, to Mrs. M. E. Brown, Georgetown, for rug.

.50. Gratuity, to Miss Carrie Abbott, Newburyport, for kid rug.

.50. Gratuity, to Miss Minnie Page, Newburyport, for rug.

.50. Gratuity, to Mrs. R. H. Wigglesworth, Newburyport, for rug.

.50. Gratuity, to Miss Nellie B. Moulton, Newburyport, for rug.

.75. Gratuity, to Miss Mary C. Noyes, Newburyport, for knit Smyrna rug.

.50. Gratuity, to Miss Mary Cottrell, Newburyport, for button rug.

.50. Gratuity, to Miss Mary Bent, Newburyport, for lamb's tongue rug.

William H. Bayley, Mrs. Aaron Low, Mrs. Isaac P. Noyes, Mrs. J. N. Rolfe—*Committee.*

ARTICLES MANUFACTURED FROM LEATHER.

The Committee on Articles Manufactured from Leather have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$5. First premium, to Thomas Hill, Georgetown, for best carriage harness.

There was a collection of shoes, but no evidence that they were manufactured in the county.

William Hilton, I. N. Lane—*Committee.*

MANUFACTURES AND GENERAL MERCHANDISE.

The Committee on Manufactures and General Merchandise have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$3.00. First premium, to W. H. Noyes & Bro., Newburyport, for samples of combs.

2.00. Gratuity, to C. H. Richardson, Newburyport, for cough drops.

.50. Gratuity, to J. R. Fogg, Amesbury, for wringer.

1.00. Gratuity, to F. A. Silloway, Newburyport, for upholstery.

1.00. Gratuity, to Edward H. Clarkson, Newburyport, for case of bird's eggs.

1.00. Gratuity, to Frank E. Coffin, Newburyport, for sewing machine.

3.00. Gratuity, to John Carter, Newburyport, for case fancy goods.

1.00. Gratuity, to Mrs. N. A. Paine, Newburyport, for fancy hair work.

2.00. Gratuity, to N. N. Dummer, Rowley, for manufactured grains.

.50. Gratuity, to Edward Lunt, Newburyport, for felt slippers.

.50. Gratuity, to S. H. Fowle, Newburyport, for one case candy.

1.00. Gratuity, to G. H. Plumer, Newburyport, for case fancy velvets.

1.00. Gratuity, to Robertson & Drummond, Newburyport, for furs.

.50. Gratuity, to Alice Brown, Newburyport, for case beetles from Java.

2.00. Gratuity, to Wm. Duchemien, Newburyport, for plaiting and basting machine.

Benjamin Akerman, Charles N. Ballou, Charles F. Horton, Isaac P. Noyes—*Committee.*

FANCY WORK AND WORKS OF ART.

The Committee on Fancy Work and Works of Art have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$1.00. Gratuity, to Miss Mattie F. Jaques, Newburyport, for water color.

.50. Gratuity, to Miss Grace L. Bailey, Newbury, Byfield, for oil painting.

.50. Gratuity, to Miss Ethel Reed, Newburyport, for crayon.

.50. Gratuity, to Mrs. H. W. Roberts, Newburyport, for water color.

.50. Gratuity, to Miss M. E. Couch, Newburyport, for china platter and dish.

50. Gratuity, to Miss H. A. Pike, Newburyport, for decorated china.

.50. Gratuity, to Miss N. P. Rogers, Newbury, Byfield, for plush banner.

.50. Gratuity, to Mrs. G. H. Fenderson, Newburyport, for oil painting.

.50. Gratuity, to Miss E. Angerine Welch, Georgetown, for 3 water colors.

.50. Gratuity, to Miss M. E. Couch, Newburyport, for oil painting.

.50. Gratuity, to Miss S. L. Knox, Newburyport, for painting.

.50. Gratuity, to Mrs. C. H. deRochemont, Newburyport, for oil painting.

2.00. Gratuity, to Mrs. Kirkpatrick, Newburyport, for painting of pansies.

.50. Gratuity, to E. A. Williams, Newburyport, for water color.

2.00. Gratuity, to Miss L. E. Merrill, Newburyport, for flower painting.

1.00. Gratuity, to Miss Mabeth Hurd, Newburyport, for crayon portrait.

.50. Gratuity, to Miss E. C. Lunt, Newburyport, for animal study.

1.00. Gratuity, to Mrs. Dr. Leslie, Amesbury, for study of pansies.

.50. Gratuity, to Miss F. H. Pettingell, Amesbury, for putty modelling.

.50. Gratuity, to Miss Nellie Clarkson, Newburyport, for arbutus.

.50. Gratuity, to Miss Annie K. Tuck, Newburyport, for dog's head.

.50. Gratuity, to Miss Grace G. Rogers, West Newbury, for oil painting.

1.00. Gratuity, to Miss Nellie Coffin, Newburyport, for crayon panel.

.50. Gratuity, to Miss Margaret A. Pike, Newburyport, for placque (oil).

.50. Gratuity, to George Duchemin, Newburyport, for wood carving.

.50. Gratuity, to Mrs. E. C. Greenville, Newburyport, for breast pin.

.75. Gratuity, to Mrs. George Stevens, Newburyport, for lace apron.

.50. Gratuity, to Miss Belle Kennedy, Newburyport, for floral paper basket.

.50. Gratuity, to Mary E. Buckley, Newburyport, for mantle lambrequin.

1.00. Gratuity, to Mary E. Welch, Newburyport, for fancy panel.

.75. Gratuity, to Mary E. Welch, Newburyport, for child's sacque.

.50. Gratuity, to Mrs. S. A. Stevens, East Salisbury, for two lambrequins.

.50. Gratuity, to Lucy J. Henry, 14 years old, Newburyport, for tidy.

.75. Gratuity, to Mrs. E. B. Storer, Newburyport, for knit tidy.

1.00. Gratuity, to Miss H. S. Hart, Newburyport, for fancy table cover.

.75. Gratuity, to Margaret E. Pike, Newburyport, for table cover.

.50. Gratuity, to Annie J. Moynihan, Newburyport, for sofa pillow.

.75. Gratuity, to Mary E. McQuade, Newburyport, for table cover.

.50. Gratuity to Mrs. Eliza Rogers, 82 years old, West Newbury, for 5 fancy pin balls.

1.00. Gratuity to Mrs. G. H. Moulton, Newburyport, for table scarf.

.50. Gratuity, to Edna Bryant, Newburyport, for motto.

.50. Gratuity, to Gertrude Johnson, Newburyport, for butterflies in frame.

.50. Gratuity, to S. J. Pike, Newburyport, for 2 bureau covers.

.75. Gratuity, to Lillian W. Grenlief, Newburyport, for towel tidy.

.75. Gratuity, to Maggie McCarty, Groveland, for table scarf.

.50. Gratuity, to Annie N. Dearborn, Newburyport, for hand-knit edging.

.50. Gratuity, to Mrs. J. L. Colby, Newburyport, for table scarf.

.50. Gratuity, to Miss I. Romily, Newburyport, for toilet set and chair.

.50. Gratuity, to Miss L. L. Lamprey, Newburyport, for thermometer case.

.50. Gratuity, to Miss L. L. Lamprey, Newburyport, for tidy.

1.00. Gratuity, to Mrs. E. M. Moulton, Newburyport, for table scarf.

2.00. Gratuity, to Lizzie H. C. Folsom, Georgetown, for window lambrequin.

.50. Gratuity, to Lizzie H. C. Folsom, Georgetown, for framed wreath.

.75. Gratuity, to Gertie S. Lunt, Newburyport, for fancy handkerchief.

.50. Gratuity, to Stella Neal, Newburyport, for sea moss.

.50. Gratuity, to Miss Lizzie Jaques, Newbury, for fire screen.

.75. Gratuity, to Ida M. Jaques, Newburyport, for panel in K. P.

.50. Gratuity, to Mrs. Avery, Newburyport, for handkerchief.

.50. Gratuity, to Miss Mary A. Creasy, Newburyport, for table scarf.

.75. Gratuity, to Miss Josephine Doyle, Newburyport, for fire screen.

.50. Gratuity, to Miss Alice C. Plumer, Newburyport, for table scarf.

.50. Gratuity, to Mrs. S. E. Blaisdell, Newburyport, for work box.

.75. Gratuity, to Georgie Thurlow, Newburyport, for guitar brush holder.

.50. Gratuity, to Miss J. Lydston, Newburyport, for night robe.

.50. Gratuity, to Mrs. Somerby N. Noyes, West Newbury, for hand-knit tidy.

.50. Gratuity to Mrs. M. W. Batchelder, Lynn, for linen covers.

.50. Gratuity, to Ella W. Ferguson, Newburyport, for worsted wreaths.

.50. Gratuity, to Alice Brown, Newburyport, for sachet boots.

.50. Gratuity, to E. J. Parker, Newburyport, for hair wreath.

.50. Gratuity, to Mrs. Levi Senior, Newburyport, for worsted flowers.

1.50. Gratuity, to Miss Mary Jones, Newburyport, for table cloth.

.75. Gratuity, to Nellie L. Stanley, Newburyport, for fancy table.

.50. Gratuity, to L. Nellie Pierce, Newburyport, for sofa pillow.

.50. Gratuity, to Susan E. Merrill, Newburyport, for hammered brass.

.50. Gratuity, to George H. Smith, Haverhill, for fish scale pin.

.50. Gratuity, to Kate M. Buckly, Newburyport, for piano cover.

.50. Gratuity, to Mary F. Brown, Newbury, for 5 table mats.

.50. Gratuity, to Delia A. Frost, Newbury (Byfield), for box paper flowers.

Theodore L. Castlehun, Mrs. A. J. Haynes, Miss Delia C. Noyes, Miss Viola F. Winkley, Mrs. Peter Holt, Jr. —*Committee.*

WORK OF CHILDREN UNDER TWELVE YEARS OF AGE.

The Committee on Work of Children under Twelve Years of Age have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$3.00. First premium, to Marion DeJean, Newburyport, for silk quilt.

2.00. Second premium, to May F. Carney, Newburyport, for piano cover.

.50. Gratuity, to Mary Casey, Newburyport, for child's sacque.

.50. Gratuity, to Ida Poor, Georgetown, for daisy quilt.

1.00. Gratuity, to Hattie Burke, Newburyport, for table cover.

.50. Gratuity to Anna Furguson, Newburyport, for table cover.

.50. Gratuity, to Mary McQuade, Newburyport, for afghan.

.50. Gratuity, to Lulie Frost, Newburyport, for tidies.

.50. Gratuity, to Satie Swasey, Newburyport, for knitted mat.

.50. Gratuity, to Shirley Ladd, Groveland, for collection of woods.

1.00. Gratuity, to Agnes Burke, Newburyport, for pillow sham.

.50. Gratuity, to Emma Sprague, Newburyport, for quilt.

.50. Gratuity, to Nettie Woods, Newburyport, for afghan.

.50. Gratuity, to Winnie Evans, Newburyport, for easels.

1.00. Gratuity, to Hollis Scates, Georgetown, for oil paintings.

.50. Gratuity, to Willie Swasey, Newburyport, for shell work box.

.50. Gratuity, to Ernest and Fred Hood, Salem, for calico quilt.

.50. Gratuity, to Gertie Carleton, Rowley, for burlap rug.

.50. Gratuity, to Drussie Brown, Georgetown, for lamp mats.

There were forty-one entries for premiums.

Mrs. G. H. Plumer, Mrs. Bartlett, Mrs. S. Noyes — *Committee.*

IMPROVING WET MEADOW AND SWAMP LANDS.

The Committee on awards for "Improving Wet Meadow and Swamp Land," in submitting their report, beg leave to say, that they are impressed with the importance of the object contemplated in offering the premiums for the most successful of these experiments. Throughout the county, in both woodland and pasture, may be found vestages of once cultivated fields, an evidence of a decrease in the acreage of tillage land during the present century. It is probable that the rocky moss grown pastures could not with the present price of labor be cultivated profitably, but many acres of woodland give evidence by the rapid growth of wood, of a strength of soil that would well repay the cost of clearing and reclaiming. Meadow land long abandoned to hassocks, bushes and water grasses, which, if properly drained, worked and fertilized, will produce a sure and profitable crop of hay, when higher land subject to droughts often disappoints the owners in the quantity produced.

It has been said that he who causes two blades of grass to grow where but one had grown is a public benefactor, and we may safely conclude that the man who reclaims a swamp or worthless meadow and increases its value two or three fold, contributes to the public welfare; and when the outlay is fully met by the crops produced in two or three years, yielding the increased value of the land as net profit, it affords encouragement for others to go and do likewise. Four entries were made the present year, last year there was but one, showing an increasing interest in this enterprise. The first was by B. H. Farnum, of North Andover, who entered a little more than one acre of land, which three years since was wet and comparatively worthless meadow, has by means of thorough drainage and cultivation produced the present year three tons of excellent Timothy hay and five hundred pounds of oat fodder. The land and crops were examined by your Committee, who recommend the award of $15, first premium, to B. H. Farnum of North Andover.

The second entry was by William W. Perkins of Newbury, who entered two acres from which a heavy growth of wood and timber had been removed, the stumps and roots taken out with much hard and persevering labor; ploughed, liberally fertilized, and planted two years with potatoes, and two excellent crops obtained, the income of which has apparently met the cost of the whole outlay, while the value of the land is greatly increased; but it does not appear that the woodland was ever wet or that drainage was required at all, for this reason, in the opinion of your Committee, it could not be called swamp land.

The third entry was Luther Tidd of Georgetown; this was an acre of common brook meadow, treated with sand and fertilized, and appeared in a promising

condition, but the experiment having been in progress but one year, it does not come within the rules. The fourth entry was by S. A. Jaques of West Newbury, who entered an acre of swamp land of deep peat muck; this was first drained by cutting a wide and deep ditch around the lot; a heavy growth of wood was cut seven years since from the lot, the stumps and hassocks removed, the whole worked entirely by hand for three years, producing two extraordinary crops of potatoes, grown without manure or fertilizers of any kind. The fertilizers applied the third year were not required by the soil or not adapted to the crops, hence the failure of the onions and root crops; the cabbage succeeded better. Taking the three years together, the crops paid a large profit upon the labor bestowed, beside greatly increasing the value of the land. Your Committee recommend the award of $10, second premium, to S. A. Jaques of West Newbury.

Respectfully submitted, for the Committee,

J. Scott Todd, *Chairman.*

STATEMENT OF B. H. FARNUM.

To Essex Agricultural Society:—

The piece of land which I enter for premium contains an acre and one fourth as near as I can measure. It was given to me by my father. He had previously cut off a thick growth of maple trees, blueberry bushes and alders. Twenty years ago it was ploughed, the roots dug out and burned, a ditch dug on two sides, levelled with bog hoes and harrow, and sowed to grass seed without any manure except the ashes which came from the burning roots. It was so soft oxen could not be used only on one side near the ditch. The grass seed on a narrow strip near the ditch came up and did nicely, but a large portion of the piece produced a poor quality of meadow grass, very hard

to cut. I let it go as it was except a narrow strip near the ditch which I have ploughed occasionally. I commenced to reclaim a piece on the other side of the ditch, where my success was so good that it encouraged me to go back and commence again on the piece which I now enter for premium. In '83 I dug the ditch as deep as the water and rocks would admit, varying from two to six feet deep and from three and one half to four feet wide. I ploughed it, using a pair of wheels where the oxen could not go in the furrow, and applied a heavy coat of barn manure in the drills. I planted the dryest part with potatoes, and the rest with sweet corn. In November I ploughed it with a side hill plough, with the intention of seeding down, but before I got it level enough the ground froze. In March, '84, I sowed on ten bushels of hen manure just as it came from the roost. When warm weather came the weeds and grass came up thick, and grew very fast; I ploughed it in June. I think the weeds were six inches high; I turned them under and without any more manure, sowed it to oats and grass seed, with the exception of a few rods where the sod was not rotted enough to level. I planted again with sweet corn. Had a very heavy crop of oats, was obliged to move a part of them to higher ground to dry. In 1885 we estimated the crop of grass on the part that was seeded down at two tons. The few rods that were not seeded down to grass I ploughed and again planted with sweet corn. In 1886 the few rods that had been planted with corn were ploughed with side hill plough and sowed to oats and grass seed. I think the grass on the part that was seeded down in 1884 was the heaviest crop of grass I ever raised. We estimated the hay to weigh three tons and the oats five hundred pounds.

DR.

Estimated expense for 1883:

Value of land,	$50 00
To 40 rods ditch at .50,	20 00
" ploughing with oxen and horse and two men, three days,	19 50
" harrowing and furrowing,	2 50
" 12 loads manure, 30 bushels each,	24 00
" 2 bushels potatoes,	1 50
" 12 qts. corn,	25
" planting, two men, two days,	3 00
" cultivating the whole and hoeing potatoes,	2 25
" digging potatoes,	2 00
" ploughing and harrowing in November,	12 00

Estimated expense, 1884:

To hen manure,	4 00
" ploughing, two men and yoke of oxen, one and one-half days, at $1.50,	6 75
" harrowing,	2 00
" 2½ bushels oats, at .70,	1 75
" grass seed,	2 25
" harrowing and levelling and sowing oats,	2 00
" manure for corn,	6 00
" planting fodder corn and seed,	2 00
" harvesting oats,	12 00

Estimated expense, 1885:

To manure for fodder corn,	6 00
" ploughing and planting corn,	2 00
" making 2 tons hay,	8 00

Estimated expense, 1886:	
To ploughing,	$1 00
" manure,	3 00
" one-half bushel oats,	30
" harrowing and levelling,	75
" harvesting oats,	1 25
" making 3 tons hay,	12 00
Total expense,	$210 05

CR.

Estimated value of crop, 1883:	
By 20 bushels potatoes,	15 00
" fodder corn,	10 00
Estimated value of crop, 1884:	
By oats,	24 00
" fodder corn,	10 00
Estimated value of crop, 1885:	
By 2 tons hay,	32 00
" fodder corn,	10 00
Estimated value of crop, 1886:	
By 3 tons hay,	$48.00
" 500 lbs. oats,	3.00
" present value of land,	200.00
Total value of crops and land,	$352.00
First value of land and total expenses,	210.05
Balance,	$141.95

NOTE.—Present value of land, per acre, $160 00
Value of 4 years' crops, " 121 60
Total, $281 60

First value of land, per acre,	$40 00	
Expense on land and crops per acre,	128 04	
		$168 04
Balance per acre,		$113 56

B. H. FARNUM.

STATEMENT OF STEPHEN A. JAQUES, WEST NEWBURY, "RECLAIMING SWAMP LAND."

It was a heavy growth of wood seven years ago. There is about five acres in the piece. I dug a ditch around the whole to drain it.

In 1883 I had the stumps and hassocks cut out of one measured acre, cost $40; I then dug it over by hand, cost $20; I planted it with Clark No. 1 potatoes, without manure, cost $6; six bushels of seed, $3.60; I cut the seed in quarters, hoed once, $9; harvested 148 bushels of salable and 40 bushels of small potatoes, cost $12.

In 1884 I dug over the same piece by hand, holed it for potatoes, cost $11; planted it the 4th of June with Clark No. 1 potatoes, without manure, cut them one eye in a piece, dropped two pieces in a hill, used four bushels, cost $2.40; cost of planting, $1.50 per day, $6; hoed once, $7.50; harvested Oct. 15th, 145 bushels of large, 45 bushels of small potatoes.

In 1885 I had the same piece of land dug over by hand, cost $5; planted with Clark No. 1 potatoes, seven bushels of seed, cost $3.50; holed by hand, $3; cut the seed two eyes in a piece, dropped two pieces in a hill, without manure; hoed once, $8; harvested in October 147 bushels large, 38 bushels small potatoes, cost $15.

In the Fall of 1885 plowed the same piece of land with a pair of horses. Used an Oliver Chill Plow. The horses walked on the land side; if they stepped on the furrow

they would go down; I got them in twice. Let the land lay over Winter just as I ploughed.

In the Spring of 1886 I raked it over by hand, cost $6; I then spread Dole Fertilizer, one-half ton, $17.50; I sowed three-fourths of it with onions, $3; the rest sowed with beets, parsnips, turnips, sugar beets, mangold wurtzels, carrots and celery—all a failure. I then set out with cabbages, seed cost 15 cents; hoed once, 75 cents; transplanting, $6; harvested one-half acre, 19,562 pounds.

Soil, muck and peat.

RECAPITULATION FOR ONE ACRE.

1883.—Cost cutting out stumps, etc.,	$40.00
Digging,	20.00
Seed potatoes,	3.60
Planting and hoeing,	9.00
Harvesting,	12.00
	$84.60

Crop—148 bush. salable potatoes, 40 bush. small potatoes.

1884.—Cost digging over, etc.,	$11.00
Seed potatoes,	2.40
Planting,	6.00
Hoed once,	7.50
	$26.90

Crop—145 bush. large potatoes, 45 bush. small potatoes.

1885.—Cost digging over,	$5.00
Seed potatoes,	3.50
Holing,	3.00
Hoeing,	8.00
Harvesting,	15.00
	$34.50

Crop—147 bush. large potatoes, 38 bush. small potatoes.

1886.—Raking over land cost	$6.00
Half ton Dole fertilizer,	17.50
Sowing onion seed,	3.00
Cabbage seed,	.15
Hoed once,	.75
Transplanting,	6.00
	$33.40

Crop from one-half of land—19,562 pounds cabbages; the other crops a failure.

REPORT OF THE COMMITTEE ON GRAIN CROPS.

But two entries have been made in this department. Mr. J. J. H. Gregory of Marblehead made entry of a fine piece of rye, and Mr. Oliver P. Killam of Boxford, of a superior crop of corn.

Mr. Gregory's rye crop, as per statement, shows conclusively that there is yet a profit in growing the grains in New England. Here we see that with an outlay of $48.25, which includes $10 for fertilizers, and also the cost of getting the crop to market, he secures a crop of 57 1-2 bushels of rye, worth 75 cents per bushel; and 8,131 pounds of straw, worth $20 per ton; or a total receipt of $124.48, with a net profit of $76.23—which is only another proof showing that good treatment is the one thing essential to the successful growing of all the grains in competing with the fertile prairies of the West.

Your committee have for several years advocated the growing of more grain in this State, and in my report of one year ago I called attention to the fact that a generous treatment of our grain crops would so increase the

yield that we should have very little trouble from Western competition.

Mr. Killam's statement on Corn Crop shows that good yields of corn can yet be secured in Essex County, by a proper selection of soils, and with only an ordinary quantity of manure.

Of the benefits to be derived from the growing of corn in Massachusetts too much cannot be said. Many of our farmers may be seen at the grain mills every day after their supply of meal. This, I believe, is all wrong; for while at the mills they are paying 60 cents per bushel, they can grow a crop of corn of better quality and at less cost, besides raising a crop of fodder on the same land more valuable than a crop of grass.

Mr. Killam's field yielded a crop of 88 bushels per acre —a good crop certainly, yet crops of 60 or even 50 bushels per acre can be grown with profit, as our President and other successful corn growers have shown; and these yields are not more than may ordinarily be expected if suitable soil is selected and fairly dressed.

Your Committee have awarded premiums as follows:

10.00. First premium, to James J. H. Gregory, Marblehead, for rye crop.

10.00. First premium, to Oliver P. Killam, Boxford, for corn crop.

Respectfully submitted,

JOHN Q. EVANS,

For the Committee.

STATEMENT CONCERNING A CROP OF RYE RAISED BY MR. J. J. H. GREGORY, IN THE TOWN OF MIDDLETON, OCTOBER, 1886.

The crop of 1884 was cabbage, which was manured with part barn manure, part fertilizer, the latter in the hill, four cords of the former and about six hundred weight of the latter.

In 1885 the crop was cabbage seed, about six cords of barn manure being used, one half in the drill and one half broadcast. About eight hundred pounds of fertilizer, consisting mostly of phosphoric acid (soluble) and potash, was applied in the hill. The soil is a good loam. After the cabbage seed was gathered, in September, it was ploughed seven inches deep, and six hundred pounds of fertilizer, composed of soluble phosphoric acid in the form of bone, nitrogen as sulphate of ammonia, and potash in the form of muriate, was scattered broadcast by a broadcast spreader; after which, and by the same machine, two bushels of rye to the acre was sown. The piece was then thoroughly harrowed and rolled.

The cost of the crop was as follows:

Ploughing one acre, man and 2-horse team,	$2.50
Cost of fertilizer,	10.00
Cost of seed,	2.00
Applying fertilizer and seed,	1.50
Harrowing the same,	1.00
Rolling,	1.00
Cutting crop by scythe,	3.00
Binding and getting to barn,	6.00
Threshing by hand,	15.00
Getting straw to market,	5.00
Getting grain to market,	1.25
	$48.25

The receipts were:

For straw, $1 per 100 lbs., 8,131 lbs.,	$81.31
For grain, 75 cts. per bu., $57\frac{33}{56}$ bu.,	43.17
Value of crops,	$124.48
Expenses,	48.25
Profit,	$76.23

After harvesting the rye, the land was ploughed, a dressing of six hundred pounds of fertilizer, rich in potash, was spread broadcast, and Hungarian was sown. There was a good crop, though it was affected by the dryness of the season. It was my intention to follow it with another crop of rye, but I regret that my teams were too much occupied to enable me to carry out the plan.

Two other pieces were in rye at the same time as the one offered for premium, each of which had fertilizers applied before sowing, and all three crops were so nearly alike in yield that there was no choice between them.

It strikes me that the lesson to be learned from these experiments is, that it may pay to manure our land, especially for rye, and not, as is customary, let the crop depend wholly for food on the leavings of the one that preceded it.

Yours, J. J. H. Gregory,
Marblehead, Mass.

This is to certify that on an acre of rye raised on the farm of J. J. H. Gregory, at Middleton, there was grown, by weight, 3,225 lbs., or $57\frac{33}{56}$ bu., and 8,131 lbs. of straw, or 4 tons, 131 lbs.—the grain having been weighed at the barn and the straw on the town scales.

Middleton, Oct. 26, 1886. S. A. Jones.

STATEMENT OF OLIVER P. KILLAM OF BOXFORD.

The crop of 1884 English hay, fifteen hundred lbs. to

the acre; no manure used. The crop of 1884 same, no manure was used, about twelve hundred lbs. to the acre. The soil a dark loam; ploughed once six inches deep and thoroughly harrowed with wheel and tooth harrow. Cost of ploughing and harrowing $9 per acre. Amount of manure, 25 loads per acre of 30 bushels to the load, all spread and ploughed under, all fresh from barn cellar. The value of manure on the ground, $2 per load. The corn was planted May 25th by hand, 3 1-2 feet each way, with one spoonful of phosphate in each hill, planted with eight quarts of eight-rowed yellow corn; cost of seed and planting, $3 per acre. The cultivator was run three times each way with very little hoeing up to July 4th. Cost of cultivating and hoeing, $4 per acre. The corn was cut and stooked 16 hills to a stook the 8th of September. Cost of harvesting, including husking, $12 per acre. As the Committee did not give me any order, I measured two rods on one side where it was a fair average per acre, and husked it the 26th day of October, it being very sound and dry, weighing 44 lbs. to the rod. My whole field is about 3 acres; I tried it on other parts of the field outside of this acre, and it amounted to about 40 lbs. to the rod. I think the condition it was in it would hold out at 40 lbs. to the bushel, making 176 bushels of ears to the acre.

I certify that the above statement is correct.

OLIVER P. KILLAM, *Competitor.*

This may certify that I measured two rods on one side of the acre and helped get it in and husk it, and saw it weighed, and the above statement is all right.

JOHN EMACK.

REPORT OF COMMITTEE ON ROOT CROPS.

The committee selected to examine the Root Crops entered for the Society's premiums, have attended to that duty, and report eighteen entries, from twelve competitors, viz.:

John H. George, Methuen, Onions and Potatoes.

Walter Smith & Co., Methuen, Sweede Turnips.

Benj. H. Farnham, Andover, Cabbages—withdrawn.

Ansel W. Putnam, Danvers, Potatoes.

Asa T. Newhall, Lynn, Onions and Squashes.

J. E. Page, Superintendent of Pickman farm, Salem, Cabbages.

Cyrus K. Ordway, West Newbury, Carrots.

Stephen A. Jaques, West Newbury, Cabbages and Potatoes.

Daniel Carleton, Andover, Cabbages.

J. W. Blodgett, East Saugus, Mangold Wurtzels.

J. W. Blodgett, East Saugus, Squashes, withdrawn.

M. B. Faxon, Saugus, Potatoes.

James Manning, Topsfield, Onions, Turnips, Carrots.

It is the opinion of your committee that onions, squashes and potatoes ought all to be entered by Sept. 15, as, if entered at a much later date, the probability is that the committee may not be able to see those crops before harvesting.

Although it has required considerable time and expense, your committee feel that we have been amply repaid for our trouble, as we have had the pleasure of visiting some of the best farms and farmers of Essex County, and in every case have been cordially received, and had their several systems of farming freely explained to us.

John H. George's crop of onions was a very heavy one, raised on reclaimed swamp land, with no other drainage

than an open drain around the field. At the time of our visit, Aug. 31, the onions were fully ripe, and of excellent quality, with scarcely a scullion on the half acre; while on the adjoining farm, on high land, a field sown at the same time and out of the same lot of seed, the onions stood up nearly as green as ever, and were at least three weeks later.

Mr. George called our attention to a trial of seed purchased of several different parties who claim to sell a good article. The result was, some did not come up at all, some very sparing, while others that did grow were large necked and coarse, with not one good lot among the whole. This shows that the selection of seed is of vital importance, and we can recommend no better seed, of any variety of vegetable, than that grown by our Essex County seedsmen.

While in Methuen, we examined the crop of turnips of Walter Smith & Co., although rather early in the season to judge. The outlook was for a fair crop.

At Danvers we were highly entertained by Ansel W. Putnam's explanation of the manner in which he conducted his farm. As he showed us his crops, each department was taken up and the methods of cultivation explained by one, whose many articles in the agricultural press have taught us to look up to, as an experienced farmer; but we had never had the pleasure of listening to his farm talks so direct, and we know that this was a day well spent.

His crop of potatoes was not a large one, but his object in entering his crop was to bring his report before the Society, showing experiments he has been making for the past few years. Although we cannot award a premium for his crop, we earnestly request that his excellent report be printed in the Transactions, believing the information therein given is of great value.

On Sept. 15 we visited Asa T. Newhall's onion crop, which was raised on land similar to that of Mr. George's, it being reclaimed meadow land. Mr. Newhall's onions, at the time of our call, were perfectly ripe, and of excellent quality and of medium size; they were very thick, however, pressing out so the rows seemed to be in places scarcely six inches apart.

The contest between Mr. Newhall and Mr. George appeared to be very close, the one raised by the use of a compost, at the rate of eight cords to the acre, the other on commercial fertilizers, at the rate of one ton per acre.

The committee did not venture to intimate, even to each other, which of the contestants would win. When the statements came in they showed a difference of fifteen bushels on the half acre, with a record of 1090 and 1120 bushels per acre, the difference being only about one-half cent in cost per bushel.

In 1871 Mr. Gregory came down to Newbury to see a crop of 970 bushels to the acre. He said, "This is a remarkable crop, worth a journey of thirty miles to see."

In 1886 there are at least three crops in the county—one of 1080, one of 1090, and the other 1123 bushels per acre, and *all* first quality onions. We believe this never has been excelled, and perhaps *never* will be.

The Society may well be proud of these results, and of the fact that the producers of these enormous crops are members of its association. These are no chance crops, but were especially prepared for large results by men who are educated, and are educators at our Institute meetings.

At the same time we looked over a field of squashes, raised among early potatoes, which have since been entered for premium by Mr. Newhall, and by his statement we notice that he has a heavy yield of squashes, and not content with two crops, has a fair chance to get a nice lot of turnips for third crop.

At Mr. Page's, on the Pickman farm, at Salem, we found a fine piece of cabbages which promised a large crop. Your Committee selected a number of average heads and weighed them, then taking the number of heads in a row, and estimating the whole piece on that basis, found the crop to weigh 26,672 lbs.; the heads were of very even size, with scarcely a vacancy on the half-acre.

Our next visit was to West Newbury, which is one of the best farming towns in the county; we first called on C. K. Ordway, whose farm contains many acres of intervale land situated on the banks of the beautiful Merrimac. He showed us the product of his dairy, in the shape of a splendid lot of home-made cheese, which sells at twenty cents per lb. Also large fields of excellent corn, and in fact he was not satisfied until he had made us familiar with nearly all his farm operations, all of which are conducted in a business-like manner. Our object was to examine a field of carrots; the variety raised was the Long Orange, which in our view are not as profitable as the Danvers Medium. He has a fair field however, although he thinks it will fall short of last year; this season has not been a good carrot season in any section.

Just here I would like to say a word in favor of the Guerande carrot, a new variety. I purchased some seed of Mr. Gregory last spring, and on four rows, twenty rods long, I harvested Nov. 2, fifty-eight bushels, weighing 3,364 lbs.; this would make, sowing the rows sixteen inches apart, 83,130 lbs., or 41 1-2 tons to the acre. My method of cultivation is to sow a single row between every other row of strawberries, and I suppose that the yield would not be as large if sown in a field, with rows sixteen inches apart. This is just the variety to plant between strawberries, as it is easily pulled, not requiring any digging at all.

Mr. Jaques, who presents potato and cabbage crops for our consideration, has been foremost to take advantage of the draining of Ash swamp, by Judge Bradley, who owns some three hundred acres of this land, which he is reclaiming; we see no reason why this swamp is not capable of producing as large crops as those of Mr. Newhall and Mr. George. There are many hundred acres in the township which might be reclaimed, we think, at a great profit, yielding many tons of English hay, where now grow bushes and coarse grasses; none of this land is rougher than that which Mr. Jaques has had the pluck to grapple with; he has cropped this meadow without using any manure with the exception of twelve hundred lbs. phosphate; with what success his statement will show.

At North Andover we had a pleasant visit with Mr. Carleton, who presented his cabbage crop for our inspection, and if the premiums he has received are evidence of his skill in this branch of his farming, he certainly understands how to raise cabbage. In order to get medium sized heads, which are more salable in the market than overgrown ones are, he plants thick and thus gets a large crop, and although very low prices rule this season, he makes a fair show of profit.

Our last call was on Mr. Manning at Topsfield; although too late to see his onions in the field, we were in season to examine his carrots and turnips; the turnips were of fine quality, but his yield is doubtless diminished by the hard freeze which occurred a few days before, killing many of the leaves, thereby stopping in a measure, the growth. His crop of onions was a good one and showed evidence of good farming, as did all his crops.

Never before we think, in the history of the Society, has there been so many entries by so many competitors, showing an increased interest in high cultivation, and of friendly rivalry among our farmers.

Nathaniel Dole, one of our number, resigned at the outset; the remainder of the Committee have visited, with two exceptions, that of Mr. Blodgett's, whose crop was examined by Mr. Warren, and that of Mr. Faxon's, who was not aware that it was customary for the Committee to visit the crops, so did not enter until after the potatoes were dug and a part of them sold, our first notice of his entry being when we received his statement.

The other crops have been thoroughly examined by a full committee, and we recommend the following awards, viz.:

To Asa T. Newhall, Lynn, crop of onions, first premium, $10.00
" John H. George, Methuen, crop of onions, second premium, 5.00
" John H. George, Methuen, crop of potatoes, first premium, 10.00
" Stephen A. Jaques, West Newbury, crop of potatoes, second premium, 5.00
" J. E. Page, Supt. Pickman Farm, crop of cabbage, first premium, 10.00
" Daniel Carleton, Andover, crop of cabbage, second premium, 5.00
" J. W. Blodgett, East Saugus, crop of Mangolds, first premium, 10.00
" Walter Smith & Co., Methuen, crop of turnips, first premium, 10.00
" James Manning, Topsfield, crop of turnips, second premium, 5.00
" Cyrus K. Ordway, West Newbury, crop of carrots, first premium, 10.00
" Asa T. Newhall, Lynn, crop of squashes, first premium, 10.00

B. F. Huntington, David Warren, C. D. Ordway, A. M. Bodwell—*Committee.*

STATEMENT OF ASA T. NEWHALL.

The following is a statement concerning a crop of onions raised by Asa T. Newhall in the city of Lynn, 1886, on 84 square rods of land.

The crop of 1884 was, on a portion of the land, onions, and potatoes on the balance. Stable manure was used, at the rate of about eight cords per acre. The crop of 1885 was onions, excepting a small portion, which was planted to cabbages where the onions failed to come up. Coarse stable manure was applied, at the rate of about eight cords per acre, being spread upon the land as teamed from the city stables during the Winter and Spring, the land having been ploughed the Fall previous.

The nature of the soil is muck, which has been treated with several dressings of sand and some coal ashes at intervals during the past twenty-five years, being a portion of a reclaimed meadow. It was ploughed about six inches in depth in the Fall of 1885. The only manure used was Ames' Bone Fertilizer, applied in the Spring on the larger portion, and Stockbridge Onion Manure on balance, each at the rate of one ton per acre, at a cost of $35 per ton for Ames, and $45 per ton for Stockbridge. Harrowed in with a wheel harrow, and smoothed with Thomas harrow, then dragged preparatory for sowing.

Sowed middle of April, one portion Yellow Globe Danvers and balance Red Globe Danvers, at the rate of six pounds of seed per acre. There was no perceptible difference in the crop grown on the two respective fertilizers used; but there was a slight difference in the crop in favor of the Red over the Yellow variety, where both were grown under the same conditions.

The cultivation was, hoeing five times and weeding twice. *The product was 30,680 pounds, or 590 bushels of 52 pounds each, on 84 square rods.

The method of harvesting was, pulling three rows to one side, then running a scuffle over the space where pulled, removing the scattering weeds, continuing this process until completed.

The cost of the crop was as follows:

800 lbs. Ames Fertilizer,	$14.00
250 lbs. Stockbridge Fertilizer,	5.60
Ploughing in Fall of 1885,	1.50
Harrowing in the fertilizers,	1.50
Smoothing and dragging,	1.00
3 1-8 lbs. seed, at $2.50 per lb.,	7.81
Sowing seed,	.75
Hoeing five times,	4.00
Weeding twice,	10.00
Hauling and harvesting,	9.25
Topping, at 2 1-2 cts. per bu., 590 bu.,	14.75
Interest,	4.00
	$74.19*

I hereby certify that the land upon which grew the crop of onions entered for premium by Asa T. Newhall, measures eighty-four rods. FRANK NEWHALL.

Lynn, Sept. 11, 1886.

I hereby certify that I weighed the onions raised and entered by Mr. A. T. Newhall for premium, and the total weight after being topped was 30,680 pounds.

Lynnfield, Oct. 20, 1886. MICHAEL LYNCH.

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*NOTE.—Product, per acre, 1123 3-4 bushels onions.
Expenses, per acre, $141 31

STATEMENT OF JOHN H. GEORGE OF METHUEN, ON ONION CROP.

Crop of 1884 was potatoes, manured 6 cords to the acre. 1885, potatoes, manured 4 cords to the acre broadcast, with 400 lbs. fertilizer to acre in drill. Soil, peat-meadow, not ploughed for two years, cultivated twice, brush harrowed twice, dragged; cost of preparation, 1-2 day one man and one horse, $1.50. Went over it twice with a Kemp manure spreader, putting on 8 cords of compost to the acre, worth $4 a cord on the land. The seed was sown April 14th, 4 1-2 lbs. to the acre of Yellow Danvers, bought of Charles W. Mann of Methuen, at a cost of $3.50 per lb.; cost of seeding, 1-2 day's work, 1 man, 75 cts.; hoed with a wheel hoe 5 times, 2 1-2 days' work, one man, $3.75; weeded three times, 6 days' work for one boy, $6.00; harvested in September; cost of harvesting, 5 cts. per bushel; yield 545 bushels measured; basket even full weighs 52 lbs.

RECAPITULATION.

Dr.	
Preparation of soil,	$1.50
Manure, 4 cords,	16.00
Seed and sowing,	8.62
Hoeing,	3.75
Weeding,	6.00
Harvesting,	27.25
Interest and taxes on land,	6.00
	$69.12*
Cr.	
545 bushels onions, at 90 cents,	490.50
Less	69.12
Balance,	$421.38*

I hereby certify that I measured 1-2 acre of land planted to onions for John H. George, to be entered for premium with the Essex Agricultural Society.

DANIEL H. ROWELL.

Methuen, Oct., 1886.

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*NOTE.—Product, per acre,

1090 bushels of onions,		$981 00
Expense, per acre,		138 24
	Balance,	$842 76

STATEMENT CONCERNING A CROP OF POTATOES RAISED BY JOHN H. GEORGE OF METHUEN, 1886.

The land on which this crop was raised is a peat meadow, planted for two years past to potatoes. What manure has been used has been put into the hill, not exceeding four cords to the acre. This year (1886), in March, before the frost was out of the ground, I went over the piece once with a Kemp manure spreader, which put on four cords to the acre of barn manure (horse and cow). When the frost was out, ploughed in the manure, furrowed the land, and put 600 pounds fertilizer to the acre in the drill; dropped the potatoes, covered them by horse, brush-harrowed them twice, cultivated them once, horse-hoed once, and one man's work one day with hand hoe, the only hand work done from time of planting to time of digging. The yield was 204 bushels.

Preparation of 1-2 acre of land for potatoes.

Dr.

Ploughing 1-2 day, 1 horse, 1 man,	$3.00
Manure on the land, 2 cords at $6,	12.00
Furrowing,	.75

Fertilizer, 300 lbs.,	5.00
Six bu. small potatoes, planted whole, 40 cts.,	2.40
Dropping and covering, with horse,	1.00
Brush harrowing twice,	1.00
Cultivating and horse-hoeing,	1.50
1-2 day's work, 1 man,	.75
Digging, 4 cts. bu.,	8.16
Interest and taxes on land,	6.00
	$41.56
Cr.	
1-2 manure used,	$11.00
204 bu. potatoes, 50 cts. per bu.,	102.00
	$113.00
	41.56
Balance,	$71.44

I herby certify that I measured 1-2 acre of land planted to potatoes for John H. George, to be entered for premium with the Essex Agricultural Society.

DANIEL H. ROWELL.

Methuen, Oct., 1886.

NOTE.—Product per acre, 408 bu. potatoes, $204.00
Cost of production, per acre, less half manure, 61.12

Balance, per acre, $142.88

STATEMENT OF STEPHEN A. JAQUES OF WEST NEWBURY.

POTATO CROP.

The crop of 1885 was potatoes, sixty bushels; no manure was used. The crop of 1886 was potatoes; Dole fertilizer, two hundred pounds to the acre, was used; soil is muck and peat.

Dug over by hand, six inches deep, $5.00; holed it for the seed; cost of preparation, $3.00; Dole fertilizer, spoonful in the hill, $3.50; planted May 25th, in hills; seed four and one-half bushels of potatoes, Clark No. 1; cost of seed and planting, $8.25; hoed by hand once; cost of cultivation, $5.00; harvested the first of October, dug by hand; cost of harvesting, $15.00; amount of potatoes, 320 bushels; cost of crop, $39.75.

STEPHEN A. JAQUES.

This will certify that I have measured one-half acre of reclaimed land, planted with potatoes last season by S. A. Jaques of West Newbury.

ROBERT A. AMEND.

West Newbury, Oct. 16, 1886.

NOTE.—Product, per acre, 320 bushels potatoes, at same value as Mr. George's, $160.00

Cost per acre, 39.75

Profit per acre, $120.25

STATEMENT OF J. E. PAGE, ON CABBAGES.

The piece of cabbage entered by me contains one-half acre. The soil is a gravelly loam. For the past two years the crop has been potatoes, manured with a compost of muck, night soil and barn manure applied broadcast. Last Fall the piece was sown with rye, which in May last was cut and put into the silo. The land was then ploughed and rolled, and a compost of loam, livers and halibut heads and horse manure, was applied broadcast, and well worked into the soil with a Climax harrow. June 11 it was planted with Warren's Stone Mason seed, in rows three, and hills two feet apart. Three hundred pounds of Ames fertilizer was put in the hills. The piece was horse and hand hood three times.

The cost of the crop was as follows:

Ploughing and preparing land,	$3.00
Seed and planting,	5.60
Cultivating and hoeing,	13.00
Fertilizer,	5.50
Four cords of manure and spreading,	26.00
	$53.10

J. E. PAGE, Sup't.

Pickman Farm, Salem, Oct. 22, 1886.

I hereby certify that I have this day measured one-half acre of cabbages for J. E. Page, (Pickman Farm), to be entered for premium in the Essex Agricultural Society.

CHAS. A. METCALF, Surveyor.

Salem, Nov. 2, 1886.

NOTE.—Cost of crop, per acre, $106.20.

STATEMENT OF DANIEL CARLETON, OF NORTH ANDOVER, ON CABBAGE CROP.

The half acre of cabbage entered by me was grown on land that had been in grass for several years. The soil is a gravelly loam; no fertilizer had been applied while in grass. Sixteen loads per acre of barn manure were spread upon the sod, last April, and ploughed under to the depth of about six inches. The land was harrowed three times with the Acme harrow. The rows were marked off three and a half feet apart, and eight hundred pounds of Cumberland phosphate per acre sown in the furrows. The furrows were made as shallow as possible and the phosphate slightly covered with the hoe. The seed was sown by machine, May 22. About three-fourths of a pound of Fottler's cabbage seed per acre was used. The plants were thinned so as to stand about sixteen inches apart in

the rows. By having the plants stand thick in the rows I get heads of the right size to suit my customers; were I raising them for Boston market I should put them further apart. In Lawrence very large heads are hard to sell. The piece was hoed by hand three times, and the horse hoe used once a week until the cabbages were too large for the team to go between the rows. The drouth affected a part of the piece in the latter part of the season, so that the crop did not look as well at the time of the committee's visit as it did a month earlier.

As it was impossible to harvest and dispose of the whole of the crop in season to make a report, I followed the suggestion of the committee, and measured off a half acre of fifty rows of equal length, and then cut the cabbages from every tenth row and trimmed them for market. From these five rows I sold twenty-one barrels of cabbages, that would weigh considerable over one hundred pounds per barrel; this would give a yield of four hundred and twenty barrels per acre, which at the present low price of fifty cents per barrel, amounts to $210 per acre. I intend to keep a part of the crop a while by cutting the heads off and laying them on grass land one head deep in the same position as they grew, on the south side of a double wall, and covering them with pine needles. Whether they are worth more than present prices for that purpose remains to be proved.

The cost of the crop per acre I make as follows:

Ploughing and preparing land,	$10.00
Seed and sowing,	3.00
Cultivating and hoeing,	20.00
800 lbs. phosphate and sowing same,	15.00
Value of manure when spread,	40.00
Marketing (estimated cost at wholesale),	75.00
Interest on land,	6.00
	$169.00

Leaving a profit of $41, at 50 cents per barrel, for the crop.

DANIEL CARLETON.

North Andover, Oct. 27, 1886.

STATEMENT OF J. W. BLODGETT.

MANGOLD CROP.

The following is the account of my mangold crop entered for premium:

The land consists of a black loam with sandy sub-soil. The crop grown on this land, season of 1885, was Hubbard squashes, manured by spreading about four cords of glue waste to the acre, and four cords of stable manure per acre in the hills.

Season of 1886, the land was ploughed and harrowed in May, then manured with stable manure, about ten cords per acre, which was then harrowed with disc harrow. It was then ploughed in ridges twenty-eight inches apart; the ridges were then levelled with the Meeker smoothing harrow. May 29th, sowed one row of mangolds to each ridge, of the long red variety. When the plants were of suitable size, they were thinned to ten inches apart.

Harvested Oct. 15th. *The result from one half acre of ground was 43,875 lbs., by estimation, one sample row being weighed.

Cost of cultivation, &c.:

Use of land,	$5.00
Ploughing and harrowing,	2.50
Ridgeing and sowing,	3.50
Cultivating between plants,	3.00
Hoeing, weeding and thinning,	12.00
Pulling and topping,	10.50
Storing,	10.50

Five cords manure and spreading,	32.00
Two and one-half pounds seed,	1.00
	$80.00*

J. W. BLODGETT.

East Saugus, Oct. 30, 1886.

*NOTE.—Products, per acre, 87,750 lbs., or 43 7-8 net tons of mangolds.

Expense of crop, per acre, $160 00

This certifies that I have measured a piece of land on which J. W. Blodgett grew mangolds this season, and find it contains one-half acre, and the mangolds to weigh 43,875 pounds, by estimation, one sample row having been weighed. HARRISON NOURSE.

East Saugus, Oct. 30, 1886.

STATEMENT OF WALTER SMITH & CO., OF METHUEN.

TURNIP CROP.

The turnip crop (Ruta Bagas) was produced on one-half acre of land, which in 1884 was in grass, run out. In 1885 the crop was oats, fertilized with 500 pounds of phosphate, and in 1886 one and a half cords of barn-yard manure was used.

Cost of cultivating twice with one man and horse, 1 hour each time, 2 hours,	$ .60
Thinning with 2 men, 1 day,	3.00
	$3.60

Products—232 1-2 bush. Swedes or Ruta Bagas, $104.62.

WALTER SMITH & CO.

As witness thereof.

COLIN WHITELY, Methuen, Mass.

STATEMENT OF JAMES MANNING, ON TURNIP CROP.

I sowed turnip seed July 28th. I dug four rows from half acre measured, and got 32 bushels from twenty-five rows of turnips, which would be 200 bushels in the half acre. I put on two cords of composted manure in drill, $21; seed, 30 cents, half pound; ploughing, 75 cents; sowing, 50 cents; thinning, $1; cultivating and harvesting, $2.50. The price I am selling them for is 50 cents a bushel—would be $100. Profit, $82.95.

NOTE.—Products, 400 bushels turnips per acre,	$200 05
Expenses, per acre,	34 10
Profit, per acre, exclusive of land rent value,	$165 90

STATEMENT OF CYRUS K. ORDWAY OF WEST NEWBURY.

CARROT CROP.

This crop of carrots I offer for premium was raised on land that was in carrots last year. Last spring I put on 2 1-2 cords of barn-yard manure and ploughed it about eight inches deep and sowed it to carrots. The seed was the Danvers Long Orange of my own raising. Hoed and weeded the crop three times during the season, and thinned to about five inches the second weeding. Finished harvesting the crop Oct. 21. Weighed the entire crop on the public scales and had 18,000 pounds.

COST OF CROP.

Manure, 2 1-2 cords,	$25.00
Ploughing and harrowing,	2.50
Raking and sowing,	2.00
Seed, one pound,	.85
Hoeing and weeding,	20.00
Harvesting,	12.00
Total,	$62.35*

Products—9 tons carrots, $12 per ton,	108.00*
Less cost,	62.35
	$45.65
Allowing half the value of the manure remaining in the land,	12.50
The result will be a profit of	$58.15*

Respectfully submitted,

C. K. Ordway.

I certify that I measured the land on which the above crop of carrots was raised and that it contained ninety square rods, and no more.

Richard Newell.

*Note.—Crop, per acre, 16 tons carrots, $192 00
Expenses, per acre, (less half value manure), 88 62

Profit per acre, exclusive of rent value of land, $103 38

STATEMENT OF ASA T. NEWHALL, ON SQUASH CROP.

The following is a statement concerning a crop consisting of Essex Hybrid and Hubbard squashes raised by Asa T. Newhall in the city of Lynn, 1886, on (300) three hundred square rods of land.

The crops of 1884 consisted of potatoes, followed by squashes, on one-half the field, and sweet corn, followed by winter rye, on balance. One application of manure at the rate of about eight cords per acre of stable and barn-yard manure for both crops, excepting the use of 200 pounds of Ames fertilizer per acre used in the drill for squashes.

The crops of 1885 consisted of beets, sweet corn, followed by barley for fodder purposes, and cabbages follow-

ing the removal of the rye that was sowed the Fall previous. Six cords of stable manure per acre was applied for corn, and eight cords per acre on the portions planted to beets and cabbages.

The soil is a dark loam with gravelly sub-soil. It was ploughed about eight inches in depth in the Fall of 1885, and eight cords of manure per acre applied during the Winter and early Spring, while the frost was in the ground, and early in April cross-ploughed from four to five inches deep, and planted to early Sunrise and Early Essex potatoes, in sections of four rows furrowed a uniform width of three feet, except leaving a space of four feet between each four furrows, to be utilized for planting the squash later, which brought the squash rows a uniform width of thirteen feet apart. Used 400 pounds per acre of Ames fertilizer in the drill for potatoes, which yielded a crop of (70) seventy barrels per acre, which were dug and put upon the market from the 5th to the 15th of July, at an average price of $2.75 per barrel.

The squashes were planted the 17th day of June by the use of about two cords per acre of a compost of barn manure, night soil and meadow mud, which had received several "turnings," and the day before using a few barrels of ashes and also a few of air-slacked lime (two barrels of each to the cord of the original compost) were thoroughly mixed through the heap as stated. The squashes were planted June 17th, having the *appearance* of being planted in drill rather than in hill, the compost being put in hills about five feet apart, and with the hoe levelled along the furrow, leaving a space of only about two feet between the ends of the hills; the seed was pricked into the hills (in a direct line) about six inches apart. Were cultivated once and hoed once—two hours' work cultivating for one man and horse, and one day's work for one

man hoeing, was all the cultivation they received or needed. As the vines grew slowly the first two weeks, showing a slim prospect for a crop, I pursued a course which I have previously tried with satisfactory results, viz: sowing turnips between the squash rows immediately after digging the potatoes, when the weather or bugs seemed to be against the squash. The day following the sowing of the turnips, in this instance, there was a bountiful fall of rain, and squash and turnips soon seemed to enter into a contest for supremacy, with chances in favor of the former; and while, later in the season, every yard of land seemed utilized by the squash crop, nevertheless, the vines being cut severely by the early frost seemed to give the turnips (which were still in the "race") a chance, and the present prospect, at this date, with favorable weather a few weeks longer, will give a fair crop of turnips.

I am undecided as to what would be considered a *just* charge for the manure, under the existing circumstances, and leave my estimate to your discretion.

I had used and sold a small quantity of the crop of squashes before entering for premium, of which no account has been made in the accompanying certificate of weight, which gives what was on the 300 square rods at harvesting. I have stored about one-half the crop for Winter market.

I submit the cost of crop, as follows:

One-half the interest on land,	$6.00
One-half the cost of ploughing in Fall of 1885,	2.00
One-half the cost of ploughing in Spring of 1886,	3.00
One-half the value of manure, at $6 per cord, applied for potato crop,	45.00
Manure used in hill, at $6 per cord, for squash crop,	22.50
Furrowing and preparation of hills,	3.00

Planting,	1.50
Cultivating and hoeing,	2.00
Cutting and storing,	11.00
Five pounds seed,	5.00
	$101.00

ASA T. NEWHALL.

This is to certify that sixteen loads of squashes raised by Asa T. Newhall of Lynn, on land measured by Oscar Stowell, and entered for premium offered by Essex Agricultural Society, weighed (38,470) thirty-eight thousand four hundred and seventy pounds net weight.

C. M. NEWHALL, Weigher.

Lynnfield, Oct. 4, 1886.

I hereby certify that the land upon which grew the crop of squashes entered for premium by Asa T. Newhall of Lynn, measures just three hundred (300) square rods.

Lynnfield, Oct. 25, 1886. OSCAR STOWELL.

NOTE.—Product per acre, 20,517 lbs. squashes. Cost of production per acre, $53.96.

STATEMENT OF ANSEL W. PUTNAM.

To the Committee on Root Crops:

GENTLEMEN:—The experiment in potato growing, to which I have called your attention, is one of a series, conducted for the purpose of finding, if possible, a system of cultivation and a variety of seed, so well adapted to high, dry land, and dry weather, as to make potato growing on such land reasonably safe.

The land is mostly a gravelly loam, but part of it is grav-

el with the loam left out. In the spring of 1884 it was in grass and was top-dressed with barn manure, five cords to the acre; was ploughed after haying and seeded with barley; the sod was backset in December, and oats sown on the furrows in the spring of 1885. After the oat fodder was harvested, five cords of barn manure to the acre was ploughed in, and barley sown for a fall crop. In the spring of 1886, five cords of manure to the acre was ploughed in about six inches deep; the land was well harrowed and marked out with a Chandler horse hoe, rows three feet apart, furrows about three inches deep. In the latter part of April one-half acre was planted with Early Sunrise potato seed, whole, and about the size of hen's eggs, dropped two feet apart in the row and covered with a hand hoe, one hoe full of soil making a little mound over each potato; the base of the mound was on a level with the under side of the potato, and about two inches of soil over the seed; when the potatoes were about coming up, Stockbridge potato fertilizer was sifted over the mounds, about an ounce to each, or at the rate of 400 lbs. to the acre. Every fifth row not fertilized when the leading sprouts were one or two inches high, sprouts, mounds and fertilizer were covered by making a full ridge with the horse hoe, high enough to put about five inches of soil on the seed; when the plants were twelve or fifteen inches high, a narrow cultivator was run between the rows, the horse hoe used to kill the weeds on the sides of the ridges, and the hand hoe on the top of the ridges between the plants.

The bugs were checked in their work by a weak solution of Paris green, applied with the same cart, cask, force pump and hose used for spraying apple trees.

The potatoes were harvested about the middle of July, the land was ploughed, and one bushel of barley sown on

the half acre. A load weighed on Oct. 16th, (a dry, windy day,) showed the product to be 75 lbs. of green barley fodder to the rod, making three tons on the half acre.

COST OF POTATO CROP.

Seed, 5 bushels of small potatoes,	$1.00
Dropping and covering,	2.00
Manure,	7.50
Fertilizer,	2.00
Ploughing, cultivating and horse hoeing,	4.00
Hand hoeing,	1.00
Killing bugs,	1.50
Harvesting,	5.00
Rent of land,	3.00
	$27.00

BARLEY CROP.

Manure,	2.50
Seed,	1.00
Ploughing and seeding,	2.00
Harvesting,	2.00
	$34.50

Returns—10 bush. potatoes,		$10.00		
50 " "		40.00		
19 " small potatoes,		3.80	Profit,	34.30
3 tons green fodder,		15.00		
		$68.80		$68.80

Three fourths an acre in the same field was planted with a later variety of potatoes, original name unknown. I call it the late Sunset; the preparation of this land, cultivation, &c., the same as the other. The seed was mostly good sized potatoes, cut so as to average one oz. to a piece.

Cost of production,	$42.75
Profits,	37.65
	$80.40

RETURNS.

104 bushels at 75 cents,	$78.00
12 " " 20 "	2.40
	$80.40

This crop could have been sold for 80 cents per bushel at the time they were dug, but as I prefer to hold them for seed, I make the returns at 75 cents per bushel; they may or may not be worth it in the spring. The barley sown on this part of the field being later than the other, was about half a crop, and just about paid expenses.

Some of the conclusions to which my experiments in potato growing have led are, that it is not well to plant potatoes on dry land, until after the sod is well decomposed by the cultivation of some other crop. After the sod is well rotted, the labor of growing and harvesting is reduced about one half, and the chances for success about doubled. Trying to subdue a witch grass or June grass sod with a potato crop, has with me often proved to be hard and unprofitable work. I think it best to plough in all the manure on dry land; this gives an opportunity to get the manure out and spread before the land is in condition to plough and plant, and consequently we have no manure to handle in planting time.

I make and use on 20 acres of land, about 50 cords of manure annually; this at $8.00 a cord, makes $20.00 for each acre. The crops on each acre are charged as part of their cost with $20.00 for plant food each year. I applied to this land $40.00 worth of manure each year for three years, charging the crops with only $20.00; I do

this trusting the grass to be grown on the land to pay the remainder of the manure bill.

The farmer has an advantage of the market gardener in growing cultivated crops. The farmer cultivates for the purpose of putting his land in good condition to grow grass, and can safely trust the grass crops to pay a large per cent. of the cost of manure, and also of cultivation. The gardener, if his land is in cultivated crops every year, must charge the crops of each year with the cost of all the labor and manure applied that year.

I think it safer on dry land to plant two feet apart in the row, than nearer. I think it safer to use good sized seed, cut to ounce pieces, than to use whole seed of any size; there is but little danger on such land of growing the tubers too big; the danger is from too many small ones which whole potatoes are sure to give, unless all the conditions are very favorable. By covering each seed with a single hoe full of soil, and leaving it in a mound, the rain and air have a chance to warm the seed and give it a good start; the mounds were well filled with roots before the potatoes were up. I feel confident that it is better to do all the filling up to be done before the plants make much growth above ground; it is much less labor to do it then, and the branches which produce the crop begin to start very soon after the potatoes are up.

The most satisfactory idea I have found, while seeking for more light on potato growing, is the idea that a large part of the eggs laid by the bugs can be prevented from hatching by an early and vigorous growth of vines.

For several seasons I have planted a few early potatoes in the garden, under conditions which made an early and rapid growth of vines. The bugs came early, laid eggs early—kept coming and kept laying—but not an egg hatched before the vines were done growing, then in a

short time the outside leaves were well covered. My explanation is, that only the eggs that were laid on the outside leaves, where the heat of the sun could reach them, hatched, and that millions that were laid in the first part of the season, like many early set hens' eggs, did not hatch.

I think the reason why, in the early part of the season, the most bugs are found on the small, weak plants, is not because more eggs are laid on them, but because all that are laid have a chance to hatch.

I have seen it stated that some of the best potato growers about New York City have of late made it a practice to manure heavy, seed high, and let the bugs go. I think the reason why it is safe for them to do this is, because by so doing they destroy many of the eggs.

To have first quality eating potatoes, a large per cent. of the foliage must remain uninjured by bugs, Paris green or rust, until the potatoes are well matured. When the leaves wilt and droop they have done their work—the crop is then in its best condition to dig; the drying of the stalk while yet connected with the tuber, seems to detract from its eating qualities.

Wire worms and white grubs don't eat potatoes before they are ripe. I suppose up to that time they live on the green and tender roots of the plant.

The farmer needs a different variety of potato from the one best for the market gardener. The early varieties get ripe, the tops die, the worms begin to eat, and the weeds get possession of the land before the farmer, who has haying to do, can get ready to dig them.

A variety that will bear heavy seeding and not set too many tubers, one that will grow stocky vines which will stand up stout and strong through hot, dry weather,—one that will grow foliage enough to completely shade the

ground, and thereby keep well ahead of the weeds and bugs,—one that by keeping green and thrifty until well into August will keep the weeds and worms in check until the farmer is ready to harvest,—is, in my opinion, the variety the farmer wants for a part of his crop, at least. The Late Sunset comes nearer to what I want a potato to do than any variety I have ever grown, but it has some failings, and I must prospect more before I can recommend it very highly.

The fertilizer used produced 20 bushels per acre for $10 worth used. If we trust the grass to pay one-half of the bill, 25 cents worth of fertilizer gave a bushel of potatoes —10 3-4 cents worth of barn manure produced a bushel. I have never made an experiment with a fertilizer which has not proved our cellar manure to be worth $20 or more per cord.

The excuse I make for calling the attention of the committee to so small a crop of potatoes is the fact that they were grown under conditions of drought and rust, which caused a large part of the crops in our town to fail to pay expenses of cultivation.

ANSEL W. PUTNAM.

Asylum Station, Mass.

This certifies that I measured two lots of land for Ansel W. Putnam. The lot planted with early potatoes is 20 rods long by 4 rods wide—contents 80 square rods. The lot planted with late potatoes is 21 rods long by 5 3-4 rods wide—contents 120 3-4 rods.

JOSHUA W. NICHOLS.

Asylum Station, Nov. 1, 1886.

REPORT OF COMMITTEE ON ORNAMENTAL TREES.

To the Trustees of the Essex Agricultural Society,

GENTLEMEN:—Your committee were duly notified by the secretary of two entries "for the best lot of ornamental trees"—one by Albert Emerson, Haverhill, sugar maples on westerly side of Hilldale avenue; and the other by Benjamin P. Ware, Marblehead, a varied collection of trees situated on his farm.

They would report that they have awarded the prize of $10 to Benjamin P. Ware of Marblehead; and would add words of praise of Mr. Emerson's trees, there being no second prize.

A visit was made to Mr. Emerson's on August 11th, where we saw a thrifty lot of sugar maples of quite uniform size, growing in a clay soil and under generally favorable circumstances. The committee were well pleased with the appearance of the trees, and also that their owner had showed a public spirit in setting them where they were doing a double duty by increasing the attractiveness and beauty of the adjacent lands, and also offering grateful shade to those passing on the highway during the heat of summer.

Mr. Emerson's appreciation of trees was shown also in the belt of natural forest growth—chiefly oaks—which he had preserved as a division between two fields, and as a sheltered passage for his cows from their pasture to the spring, which was at the farther end of the belt where it widened into a grove. This belt was fenced in, and was so located that the cattle passed within easy sight of the house on their way to the water. These trees were another picturesque feature, lending shelter to the animals, and preserving a growth of woods around the spring,

which is the surest way of continuing its flow. Such springs, the sources of our purest water, are too fast disappearing with the increase of our population. The laying out of roads and digging for water, gas and sewer pipes, generally taps their underground currents and destroys them.

Mr. Emerson's grass land and crops were looking well, and he was justly proud of a fine half-acre of asparagus.

A most delightful drive was enjoyed, at Mr. Emerson's invitation, to the town of Atkinson in New Hampshire, with beautiful and extensive scenery on either side. On the return, a brief stop was made at the farm of E. A. Emerson, the son of our host, and the committee inspected his "Bucanan" wind-mill, which had just been completed to supply his barn and house with water.

Your committee would acknowledge the kind attentions that were shown them by Mr. Emerson and his family, which were fully appreciated.

On Wednesday, August 18th, the committee met at Marblehead to examine the entry made by Mr. Ware. Some of the members having arrived before the stated time, enjoyed a pleasant half-hour along the bluff, overlooking the beach, where a magnificent view of the ocean was had. We also examined "Gun-rock," with its sounds resembling the muffled explosions of cannon, as the seas in turn advanced and broke their force in an under-cavern of the huge rocks. A singular geological formation was interestingly explained by Mr. Ware, with the theory of its origin.

The committee, being soon together, commenced an examination of the trees upon the place. Several hundred had been planted on the farm, along both public and private roadsides, and also in groups and plantations. These consisted of a variety of deciduous and evergreen trees.

Some maples and ashes, on the side of the approach to the house, were in especially good condition and have probably given as grateful shade as any on the place, since they border the roadway from the fields and railway station to the buildings; and who appreciates such protection from the sun more than those returning from the scenes of bodily or mental work, on a hot summer's day?

The trees between the house and ocean were a good specimen of what can be accomplished by planting in groups, where the exposure is considerable, and where the planting of the trees rather close together for mutual protection is the only way to secure mature trees.

Between the house and barns a mixture of evergreens and deciduous trees were appropriately located on a hillside, and formed a useful and interesting collection.

Quite a long avenue, which divides Mr. Ware's farm from his brother's, was lined with a row of maples on either side, and a third row down the centre, forming a double roadway. One side of this roadway was incomplete when your committee saw it, but the trees had been set out in advance and were doing well.

We also examined a thrifty line of willow trees that had been planted as a wind-break to a fruit orchard.

There were a large variety of trees throughout the estate, and your committee saw Norway, Sugar, Sycamore, White and Cut-leaved maples, White ash, Horse-chestnut, Elms, Willows; Scotch, Austrian and White pines, with some Larch trees; also some Thorn-acacia hedges, and some few others.

The desirability of lessening the number of trees where they formed rows at the side of roadways, was discussed by your committee, both at Mr. Emerson's and at Mr. Ware's, but shade and shelter in the heat of summer was what these were planted for, and a continuous shadow had

been secured after a number of years waiting, which would be broken by taking away every other tree for the sake of preserving the natural form of each individual.

Where trees are planted for ornamental purposes every other one in a row should be removed when the trees approach near each other; and this same principle should be followed when trees are planted in ornamental groups.

For timber, trees should be grown sufficiently near together to prevent the growth of limbs, and encourage height and size in the trunk.

After our return to the house, having completed our tour of inspection, we were shown by Mr. T. C. Thurlow samples of twenty varieties of maple leaves, and their individual characteristics were explained and discussed with interest.

Your committee are indebted to Mr. Ware for a very pleasant day and a most hospitable reception.

It is proper to call special attention, in this connection, to the general object to be sought in offering these prizes for trees. It should be to encourage people to plant trees and to bring to public notice as many examples as possible of beneficial and successful tree planting, for forest, shade or ornamental uses, in the hope and expectation of inducing more people each year to plant them. The names of those engaging in this good work should be brought before the public for commendation.

Where such an interest has not existed I have known of its being started, and later developed, by the receipt from a friend of seventy-five seedling trees, sent by mail, postage paid, for only one dollar for the whole seventy-five. These were carefully set out as the friend directed, and succeeded well. The recipient of these trees got more in a similar way, and also became a good patron of the nearest home nursery.

The writer has bought a number of hundred trees in this way which have arrived in good order, and a very small proportion have died. They were purchased of Robert Douglas & Sons, Waukegan, Illinois; they were about eight inches tall, came in a slightly moist condition, and were wrapped first in oiled paper and then in brown wrapping paper. Trees have been sent in this condition from Waukegan to Australia, and grown well when planted in Australian soil.

Farmers' Clubs, and especially Village Improvement Societies, that desire to develop an interest in general tree planting, should adopt some such plan as the foregoing. Eventually we should see in our villages samples of trees growing about our homesteads which might be novel in the locality, and beautiful in form, foliage or coloring.

Quite a variety of trees can be thus secured, and they are mostly the more desirable trees for general planting; but a few trees that can be well introduced to produce pleasing effect in ornamental planting are also thus sent by mail. White ash, White and Red pine, Hemlock and Norway spruce and Catalpa are among those that the writer has thus bought.

Trees should not be planted thickly around buildings, to shut out the rays of the sun, which are necessary for a healthful condition of atmosphere in our homes, in summer as well as in winter. Too many trees are as injurious as too many closed blinds to our health; and we all know full well what the unpleasant chill of an unused chamber, or spare parlor is, which is kept too long shut up or unused.

There are villages and towns in Massachusetts which are famed for their many beautiful trees, but which are being threatened with suspicion of malaria from the too dense foliage that covers their roadsides and home grounds.

Judicious planting is beneficial, both in a healthful and financial point of view, and should be given every encouragement.

Your committee were not called upon to visit any plantations of six hundred or more trees, but the present offer of the Society is wise, and it might even be well to offer a prize for a still larger plantation, in view of the increased interest in encouraging the preservation of forests around the sources of our water supplies.

A prize for over six hundred and not over two thousand trees might be substituted for our present large offer; and a prize for over two thousand trees might be added. Probably very few would enter for the latter, but the object is good, and good objects is what this Society seeks to encourage.

Your committee would respectfully submit this report, trusting that it will meet with the approval of the Board of Trustees.

FRANCIS H. APPLETON, Chairman.

STATEMENT OF BENJAMIN P. WARE.

To the Committee on Forest Trees:—

I desire to make the following statement regarding the ornamental trees which I offer for premium. The row of rock maples growing along the avenue through the farm, forty-five in number and thirty feet apart, were taken from the woods of natural growth forty years ago, and when set were about two inches in diameter, and cut off at an equal height of ten feet from the ground. This gave them the appearance of bare poles, and caused them to put out branches from the top, thus adding to the beauty of the whole row by the uniformity of their branches. These

trees though healthy have not made a very rapid growth, being now from twelve to eighteen inches in diameter; affording, however, a grateful shade in the centre of a driveway a quarter of a mile long and thirty-five feet wide. So beautiful is this that very many strangers are induced to drive in and through the farm to enjoy the shade thus afforded.

This first experience in setting shade trees proved so satisfactory that in later years, from time to time, I have planted some three hundred ornamental trees of various kinds along all of the highways and railroad that pass through or by my farm, adding much beauty to the landscape and comfort to man and beast that travel that way.

The grove of twenty-five trees in front of the Clifton House, being very near the ocean, was quite difficult to make grow, as the exposure to the severe easterly storms and high winds is more than those trees will generally bear. This grove was started thirty-five years ago by planting the trees quite near together, thereby affording protection to each other, and as they have grown, the weak ones have been removed, following the natural law that the fittest survive. Several varieties were here planted, not knowing which would stand the exposure the best. The American elm, Norway maple, Sycamore maple, English linden and Balm of gilead are now standing in the group, all in a healthy condition, varying in size from six to sixteen inches in diameter, and from fifteen to forty feet in height. There were originally some Silver-leafed Poplars nearest the ocean, which grew quite well for a few years, but have since all died; they were not very satisfactory at any time, continually throwing up suckers and showing more or less dead branches.

In the summer season the dense shade which this grove affords is highly appreciated by the guests of the Clifton House.

As an experiment, I trenched one-half of the land where this grove stands two feet deep, supposing that it would promote the growth of the trees, but contrary to the opinion generally held, I never saw any favorable result from it.

I have another grove composed of sixty-five evergreen trees, that serves as a screen for the barn and stable, and also for a delightful shade with a pine odor which is very agreeable to many persons. These trees were set quite near together to afford mutual protection, and are now from three to eight inches in diameter, and from six to twenty feet high, all in thrifty condition. They will be thinned out as future growth may require. Here are the Norway, Scotch and White Pines, each of a different shade of green, each beautiful in itself, and making a pleasant combination of color; especially in the winter is this attractive in contrast with the barenness of the surrounding deciduous trees and of the landscape generally.

I desire to call your attention to a row of Norway maples along the approach to the Clifton House. This variety of maple naturally forms a compact mass of foliage, shaped like a spinning top inverted, admirable for a shade. It is very hardy, retains its foliage quite late in the season and turns to a beautiful yellow color in many shades as the season advances. This row of trees, with their uniform shape and dense foliage, helps to make the walk to the railroad station a luxury rather than a burden.

Along Atlantic avenue and the approach to the railroad station and on each side of the railroad are planted White ash, Sycamore maple, Norway maple, Rock maple and Horse chestnut trees, thirty feet apart. These are all in a thrifty condition, varying from five to ten inches in diameter and from twelve to twenty-five feet high. These varieties have proved hardy and well adapted to this loca-

tion, and to the object desired in planting, although no variety will excel, or perhaps equal, our native Elm for majestic grandeur and beautiful proportions.

Nearly all of our ornamental as well as fruit trees are subject to attacks of disease or insects which mar the beauty, check the growth, and even cause death unless protected. Diligent watchfulness is the price of success, here as well as elsewhere on the farm.

The Elm is subject to the ravages of the canker worm. My Linden trees were this year badly eaten by the same or a similar worm, and had I not sprayed them with paris green, they would have been stripped of all foliage. The White ash is subject to a blight in the early season, causing black spots on the leaves, though later growth seems to overcome it, so that the effect is not noticed.

The Norway maple is, I think, a very desirable tree, but it is liable to be affected unfavorably by atmospheric influences. One side of mine had a brownish appearance which came on suddenly from this cause. The Norway maple is in danger, more than other varieties, of splitting down where there are crotches of large limbs. When young, care should be taken in pruning to have a main centre trunk, instead of cutting it off and thereby causing several main limbs to branch out. The horse chestnut is a very beautiful tree in form, foliage, and especially in flower. It is a rapid grower after it is well established. But a heavy wind while the foliage is tender in the early season will seriously mar its beauty for the rest of the season. The balm of gilead is a very hardy, rapid-growing tree, and will probably bear exposure to the ocean storms better than any other variety, and is very valuable on that account. It also has valuable medicinal properties that with many persons are the cure-all of the family and of the neighbors. Mr. Tudor found it of great service on

exposed places at Nahant in forming wind-breaks for the protection of more tender trees, and was thus enabled to grow fruit quite successfully. But this tree is subject to a borer that will seriously injure, if not totally destroy it, unless protected.

The black poplar, introduced from Japan, is a rival to this for hardiness to ocean exposure, rapid growth and symmetrical proportion. It can be easily propagated by cuttings, it has been fully tested in this country for some fifteen years, and I know of no serious objections to it. It does not sucker like the balm of gilead, silver poplar or the Lombardy poplar that was so famous seventy-five years ago. Take it all in all, I think it is a valuable acquisition to our list of ornamental trees.

The sycamore maple is a hardy tree with me, a rapid grower, has very beautiful leaves, grows very shapely, has pretty and abundant blossoms, and produces abundance of clusters of winged seed that add to the beauty of the tree in the autumn. This variety is not subject to attacks of any disease or insects that I am aware of. I consider it of great merit.

I have in my collection of ornamental trees, Wier's cut leaf maple, which, as its name indicates, has a beautiful deeply serrated leaf, attractive by its oddity. This tree is a rapid grower, with an abundance of long, slender branches with a drooping habit, quite desirable in a collection. Also the cut leaf weeping birch, with its beautiful pyramidal form, very white bark on the trunk and large limbs, and dark colored on the smaller branches which droop, and so fine, not larger than a knitting needle, that a gentle breeze will cause them to wave in a gentle, undulating manner, making this one of the most beautiful and attractive trees we have. It is propagated by grafting on some strong growing birch of another variety.

I have several other varieties of some merit, but not requiring any special mention.

I have gone into some detail, hoping to enlist the attention of my brother farmers to the planting of shade and ornamental trees about their homes, which to me has been so satisfactory, notwithstanding the drawbacks that I have mentioned. They do grow while we sleep.

Respectfully submitted.

BENJAMIN P. WARE.

REPORT OF COMMITTEE ON STRAWBERRIES AND OTHER SMALL FRUITS.

Your Committee have attended to their duty, and respectfully report three entries, one of strawberries, one of raspberries, and one of blackberries, to each of whom was awarded premiums as follows, viz.:

$10. First premium, to George G. Peirce, West Newbury, for strawberry crop.

$10. First premium, to George G. Peirce, West Newbury, for raspberry crop.

$10. First premium, to Benjamin W. Farnum, North Andover, for blackberry crop.

Since the fruit crops of Mr. Peirce were entered, he has died. He was a young man of promise, and greatly interested in the cultivation of small fruits, which he did so successfully.

Mr. Farnum commenced in a small way while a scholar in the High school, and has both multiplied his plants and increased his market, to a profit since.

Respectfully submitted for the committee,

EDWARD E. WOODMAN, *Chairman.*

STATEMENT OF GEORGE G. PEIRCE, "BREAK HILL FARM," WEST NEWBURY.

Crop of Wilson and Crescent strawberries on 1 acre, 148 1-2 sq. rods.

Soil, gravelly loam, good corn land, sloping slightly to the south. Plants set in spring of 1885, about the same quantity of each variety.

Cost of preparing and manuring ground, $40 per acre,	$77.00
9000 plants to acre, about 17,440 plants, at $3 per thousand,	52.32
Planting, $6 per acre,	11.60
Hoeing, $6 per acre,	11.60
Mulching in the fall of 1885, $10 per acre,	19.40
Picking and marketing 12,304 quarts, at 3 cents,	369.12
Total cost,	$541.04

First picking of berries June 12, 67 quarts; last picking July 13th, 129 quarts.

Total picking, 12,304 quarts, at average selling price of 12 1-2 cents,	$1538.00
Less cost of crop,	541.04
Profit,	$996.96

Rent of land and interest on investment not reckoned.

NOTE.—Crop per acre, 6381 quarts,	$797.62
Cost of strawberry crop, per acre,	280.43
Profit per acre, exclusive of land rent and interest,	$517.19

STATEMENT OF GEORGE G. PEIRCE, "BREAK HILL FARM," WEST NEWBURY.

Crop of Cuthbert raspberries on 71 1-2 sq. rods.

On side hill, sloping north; soil, yellow loam, 8 inches deep. Location favorable for snow remaining through the winter, preventing deep freezing. Set in 1884, rows 8 feet apart, plants 3 1-2 feet in rows. Pruned to within three feet of ground in spring, 1886.

Cost of preparing ground, plants, planting, etc., in 1886,	$50.00
Cost of pruning, 1886,	10.00
Cost of picking and marketing 2505 pints fruit, or 1252 1-2 quarts, at 3 cents,	37.58
	$97.58

First picking of raspberries July 12th, 110 pints; last picking August 5th, 90 pints.

Total picking, 2505 pints or 1252 1-2 quarts, at average selling price of 15 cents,	$187.88
Less cost of crop,	97.58
Profit,	$90.30

Rent of land and interest on investment not reckoned.

NOTE.—Crop per acre, 2803 quarts,	$420.45
Cost of raspberry crop, per acre,	218.35
Profit per acre, exclusive of land rent and interest,	$202.10

STATEMENT OF BENJ. W. FARNUM, NORTH ANDOVER.

Crop of Wachusett Thornless blackberries on 20 1-2 sq. rods of land.

Soil, dark loam, rocky subsoil, southeastern aspect. Plants set some three years, some two years ago. Rows 7 feet apart, plants 3 feet apart in the rows. Old wood trimmed out early in spring. Stable manure spread on

and cultivated in, keeping ground level. Not mulched through the winter; perfectly hardy.

Cost for season of 1886:

Cutting out old wood,	2.00
Trimming during season,	.75
Labor,	1.25
3 ft. manure,	2.25
Picking and marketing 806 quarts at 5 cents,	40.30
	$46.55

First picking July 28th.

Total picking, 806 quarts, at average selling price about 13 1-2 cents,	$110.52
Less the cost,	46.55
Profit,	$63.97

NOTE.—Crop per acre, 6290 3-4 quarts,	$849.25
Cost of blackberry crop, per acre,	364.37
Profit per acre, exclusive of land rent and interest,	$484.88

REPORT ON NEW VARIETY OF WINTER APPLES AND APPLE INSECTS.

In our last report we gave the history of the Baldwin apples. It is supposed to be more than one hundred years since they were first known, and now they are at the head of the list of winter apples. Still we think they, like other old varieties of winter apples, are on the decline, and are not what they were many years ago. That it should be so is not strange, as apples, when grafted, are believed to partake more or less of the natural stock; and we believe, too, that varieties of apples, like other works of nature, have their maturity and decline.

Many years ago the trustees of the Essex Agricultural Society, believing that varieties of apples deteriorated and became less productive, offered the liberal premium of one hundred dollars for a new variety originated in this county equal to the Roxbury russet or Baldwin.

In 1879 Mr. Alfred Ordway of Bradford presented a new variety of apples that originated in a neighbor's wood lot, from which he took scions and put into his own trees, which produced the apples presented. The apples are much like the Baldwin and about the same size. Samples have been presented several times. Your committee did not feel satisfied that they were quite up to the standard, and declined awarding the premium, but recommended a gratuity of twenty dollars, which was voted by the trustees. Last fall the premium was changed as follows: one hundred dollars for a new variety originated in this county equal to the Baldwin; for a new variety of like character originated elsewhere, provided they have been cultivated in the county sufficiently to prove them equal to the Baldwin for general purposes, twenty dollars.

The additional premium is an improvement, as it matters not to the apple growers of this county where the apples originated, if they are productive and of good quality. Some of our best apples are of foreign origin. The red Astracan and Gravenstein are both of foreign origin and of superior quality in their season. If there are winter apples elsewhere better than we have, let us have them; get scions and test them. It is hoped this additional premium will induce people to make an effort for that purpose.

It is not easy estimating correctly the comparative value of different varieties of apples, as there are so many qualities to be considered. The taste of the apple, their color, their size, their bearing quality, their keeping quality, with

other qualities of less importance, should all be considered. Their bearing quality is of vital importance, and most varieties are very uneven.

The past autumn I visited the farm I formerly occupied. The Baldwin apples were small and of inferior quality. The Roxbury russet, the Hunt russet and Rhode Island greening were of good quality and an abundant yield. The comparison between them and the Baldwin the like I had rarely seen before. The comparison has usually been largely in favor of the Baldwin.

At the late fair at Newburyport specimens of the Ordway apple were presented that appeared well, also a specimen of the same fruit by Mr. A. Kimball from scions from Mr. Ordway's tree; also a sample of apples, without name, from Mr. Joseph Horton of Ipswich; another variety from Mr. C. M. Kent of Newbury; another specimen from J. H. Hill of Amesbury. It is hoped that some of these apples will be kept and presented at the trustees' meeting in June, that their quality may be known at that time and compared with each other. We would also recommend that scions be taken from these trees and grafted into other trees, as one tree is not sufficient to fully test a variety of apples.

A premium of twenty-five dollars has been offered for a successful experiment in destroying the codlin moth, and other worms destructive to the apple. No premium has been called for, consequently no effectual remedy can be expected. I have taken considerable pains to get information from observation and otherwise in regard to the habits of these insects, and think something might be said that would be instructive to others.

It is often said apple insects are increasing—new insects are appearing. How this is we are not quite certain. It was said by a wise man of old "there is nothing new un-

der the sun." What then existed the like had existed before. Whether that was intended to apply to insects we are not informed. The canker worm, the caterpillar and palmer worm are all mentioned in scripture as destructive insects; whether they are the same insects now known by these names we are not informed.

We learn from tradition that the orchards in the north part of the county were ravaged by the canker worm in the latter part of the last century. In the spring of 1793 there was a late frost that killed the canker worm and nearly all the apples, and it was thought to be a benefit rather than a loss, as the destruction of the canker worm would more than compensate the loss of the apples. They appeared again early in the present century. I remember their sad effects as is seen the present day in many orchards. I also remember assisting in tarring my father's trees, which with much care proved successful. In 1815 they were again killed by a late frost. Since that time they have appeared and disappeared, and sometimes have disappeared without a known cause.

In tarring my father's trees we used tar mixed with blubber to thin it, then warmed it over the kitchen fire to have it mix and spread well. It was applied every day late in the afternoon. More recently ink has been used, as it could be put on less frequently and answer the purpose. Still more recently a solution of Paris green and water has been used to spray the trees that in many cases has been successful, but caution should be used that it be not too strong, as the foliage is sometimes injured.

Caterpillars were formerly more numerous than they now are. It was then not uncommon to see nearly the whole orchard stripped of its foliage by these insects, but the like is now rarely seen.

The apple maggot is thought to be a new insect. It is

not so. Many years ago sweet or pleasant sour apples appearing well on the outside, when cut open were worthless, but no insect visible. They are not regular depredators. Some years they destroy nearly the whole crop, other seasons they do but little or no damage. From the outside appearance of the apple no one can tell what is inside. They are said to proceed from a small fly. No remedy is known for their destruction.

Professor Sanborn informs us that there are many insects that infest the apples. We think the apple maggot and codlin moth are the most destructive. The codlin moths are of foreign origin, having been brought to this country early in the present century. They have now spread nearly over the whole country. They are a deceitful, troublesome insect. The moths fly in the night and evening and not in the day time, and are rarely seen; therefore it is not easy learning all their movements.

Entomologists tell us that the moths come out in spring, about the time the apple blossoms are falling from the trees, laying their eggs in the blossom end of the apple. I have never seen the little yellow eggs spoken of by Professor Sanders in his late work on insects, but have often seen where the worms were entering the apples at different times from the early stage of their growth to October, and not always at the blossom end of the apple, but on the side or cheek of the apple. They soon hatch and enter the apple, and in about four or five weeks, according to the season, the worms are matured, crawl out of the apples and seek a hiding place to spin their cocoon and change to another insect as nature designed.

If the worm is matured before the apple drops from the tree, it crawls out and seeks a place under the rough bark, or in a crotch between two branches, or some other place, to form its cocoon on the tree. If the apple drops before

the worm is matured, when matured it crawls out and seeks a place to form its cocoon: it may be to the body of the tree, to the stone wall, rail fence or some other place, as most convenient.

I have repeatedly picked up the wormy apples soon after they have fallen from the trees, cut them, and found much the greater part without worms, they having matured, as was supposed, and left the apple to cocoon. It thus appears that not so much is gained by picking up the wormy apples and destroying them, as has been by some supposed. To get further information, I picked up wormy apples, put them into a firkin with small scraps of cloth and covered the firkin. I soon found cocoons in the scraps of cloth, which were removed to a glass jar. Early in August moths were seen fluttering in the jar. Desirous of more information, I wrote to Professor Sanborn of the Historical Institution, of Worcester, Mass., now deceased, a man who was known to have had long experience in studying the habits of insects, and received the following information: The moths come out in spring and lay their eggs as I have described; that he had within his experience of more than thirty years examined with a microscope a large number of female moths, and found them to contain about three hundred eggs each. They live two or three weeks only, laying their eggs singly on the apples. If the nights are quite cool they remain torpid, do not move out, or if the weather is wet they remain quiet; should the weather continue cold and wet, they sometimes die without laying all their eggs.

He also informs us that the worms propagate and subsist on the following kinds of fruit: apples, pears, quinces, cranberries, and some wild fruit, and these only. In the most of our orchards apples are the only fruit produced on which they subsist. Then if there is a failure of

the apple crop, as there sometimes is in certain orchards, there will be no place for the moths to lay their eggs; consequently there will be no worms the next year, unless moths come from elsewhere. How far the moths will go to lay their eggs, and whether instinct directs them to the bearing tree, like the canker worm moth, we are not informed. We have seen them when they came out of the ground crawl directly to the body of the tree; also when the web of the canker worm is broken and falls to the ground, the worm crawls directly to the body of the tree, thence up the tree for its daily food. Now may we not reasonably suppose that instinct directs the codlin moth to the bearing rather than to the barren tree?

There is much difference of opinion among entomologists in regard to the habits of these insects, whether they are single or double brooded. The fact seems to be this: In the northern latitudes, where the growing season is short, they have but one brood in a year. In the warmer latitudes, like California, they are said to have three broods in a year. In the intermediate latitudes two broods in a year, or partially so. The early ones have a second brood, the later ones but one brood, as may be supposed it is with us.

I have the copy of an interesting letter from Professor Charles V. Riley of Washington, (formerly of Missouri). He confirms my representation that the moths appear about the time the apples are forming, others in cool places come out later, and others still later, so that he has known moths of the first brood and moths of the second brood in the same tree at the same time.

He further informs us that he has bred those moths, who when confined would so cover the apple with eggs that when the worms hatched, they would enter the apple from every side, and soon so perforate and devour the apple as to die of starvation.

We have been informed by Col. Wille, secretary of the State Board of Horticulture of the State of California, that it takes about fifty-five days to produce a generation of the codlin moth, from the time the first generation appear on the wing.

Here, as the weather is cooler, it may take longer, and from my experiments I think it may take sixty or sixty-five days to produce a brood or generation. My opinion is simply this: They begin to appear about the time the apples are forming, others in cool places come out later, others still later, until the next brood appears, so that nearly all the fall and winter apples are infested from the second brood of moths.

We have thus, we think, given a fair description of the habits of these insects, and hope some of our Yankee farmers will avail themselves of the liberal premium, and point out a plan for the extermination of these destructive insects.

JOSEPH HOW, *Chairman.*

Methuen, Nov. 9, 1886.

NEW MEMBERS.

The Committee on New Members has attended to the duty and respectfully report the following award:

$6.00. Premium, to John Q. Evans, Salisbury, for 8 new members from Salisbury.

Other than those, who became members by rule of the Society, a premium of $7 or upwards having been awarded them, the new members of the Society during the year were 8 from Salisbury, 3 from Amesbury, 3 from Lynn, 2 from Andover, 2 from Boxford, 2 from Rockport, 2 from Newburyport, 3 from Gloucester, and 1 each from

Manchester, Salem, Hamilton, Beverly, Lynnfield, Bradford, Newbury and Topsfield.

It will be seen by looking at the list of active members of the Society that in several places in the county the increase by new members has not kept pace with the decrease by death, so that the membership in those places in point of numbers is not a credit to them or to the Society. Your Committee would therefore urge the members, especially the Trustees from those places, and from all other cities and towns in the county, to increase the membership another year. No farmer or other person interested in Agriculture or Horticulture can obtain so good a return for the sum invested, $3.00, making a lifetime member.

Respectfully submitted,

DAVID W. LOW, *Committee.*

REPORT OF COMMITTEE ON TREADWELL FARM.

The farm is increasing in fertility as shown by the crops, the plain land especially yielding better returns from year to year. The stone wall around the field in which the buildings stand is much out of repair. Part of it is common wall which any man can lay up; another line is bank wall, originally laid in mortar; now much of it is loose and many stones have fallen out, several gaps have appeared, and the whole wall needs to be relaid. The under-drain laid many years ago when Nathan Brown was on the farm is in good order, and furnishes to those who remember the former condition of the land drained, the best evidence of the wisdom of the men who planned and executed the work. The wall and fence around the pasture will require extensive repairs before another season.

The wall was all poled when A. H. Gould first leased the farm, but little has been done to it since. Now the poles have decayed, the wall has been only partially put up of late years, and a considerable outlay is required at once. Poles enough can be cut in the pasture to do the work. If the maples are thinned judiciously, it would be no injury to them, and a maple pole will last many years.

The wood-wax is increasing to an alarming extent, and the comments made by neighboring farmers are not flattering to the Society. Nothing was done last year or this to check it. The plowing done a few years ago not being followed up, spread the plant by killing out the grass, thus giving the wood-wax the whole ground. A much larger area is covered by it than formerly; it has run into the woods and along the old walls so far that it cannot be well cut or plowed. It is respectfully suggested that the Society offer a premium for some effectual method of exterminating the weed, the test to be applied to this pasture.*

Accompanying this report is the account given by Mr. Foster, foreman of the Pierce Farm, of the experiments conducted by him in planting potatoes. He also gave me a verbal account of an experiment with the Stockbridge, Ames, and Darling's fertilizers applied to corn. A heavy coat of manure was spread on the land and the fertilizer used in the hill; an equal quantity of each one being applied to different parts of the field. No difference could be observed in the various lots, either while growing or in the crop at harvest. This amounts to nothing as a test, for the manure alone would have made the crop, over four cords to the acre being used.

*Note.—The Trustees, at the November meeting, voted that the Society insist that the tenant of the Farm be required to cut the wood-wax when in blossom, or immediately after.

The amount of the crops raised on the farm is also appended to this paper, the amounts produced being given but no prices carried out. This account was of course furnished by Mr. Foster, superintendent of the leased farm.

Respectfully submitted,

CHARLES J. PEABODY,
For the Committee.

REPORT OF PRODUCE — TREADWELL FARM.

25 tons English hay.
20 tons meadow hay.
7 tons stover.
18 tons rye straw.
10 tons oat straw.
1200 bushels potatoes.
175 bushels shelled corn.
100 bushels beans.
200 bushels oats.
200 bushels rye.
60 barrels apples.

MANURE APPLIED.

10 tons Darling's Fertilizer.
15 cords stable manure.

EXPERIMENT WITH POTATOES.

Ten rows planted with whole potatoes produced 38 bushels.

Ten rows planted with single eyes produced 40 bushels.

Ten rows planted with two eyes produced 42 bushels.

These were all planted in drills three feet apart; seed about fifteen inches apart in the drill.

REPORT OF DELEGATES TO FARMERS' CLUBS AND FRUIT GROWERS' ASSOCIATIONS.

The Houghton Horticultural Society, of Lynn, has a large number of enthusiastic members, and as a body have acted as a City Improvement Society. They have caused a large number of ornamental and shade trees to be planted on many of the streets, they sometimes establish courses of lectures during the winter, and annually hold an exhibition of fruit, flowers and vegetables, continuing two days and evenings, followed the next evening by a social festival, with liberal refreshments. As Lynn is a specially favorable location for the growth of pears and other fruit, their exhibitions are remarkable for the excellent quality of the fruit shown. Many first premiums offered by the Essex Agricultural Society are taken by members of this society. Its influence has been very marked, by the great advance in fruit culture and improved taste in floriculture and arboriculture which makes Lynn appear as a city of gardens. This is often remarked by strangers who visit that city.

The Marblehead and Swampscott Farmers' Club has been organized six years. It has succeeded in enlisting the interest of nearly all of the inhabitants of the farm districts of the two towns. Old and young, male and female, are induced to become members. The annnal membership fee is 50 cents; children under twelve, 25 cents. The ladies of the club have formed a supplementary club called "The Helping Hands," and they have truly proved what their name indicates. They hold weekly afternoon meetings at their several homes, which have resulted in providing for two fairs for the sale of fancy and useful articles, the products of their taste and industry. These fairs have netted some two or three hundred dollars, and thus they have been enabled to help out the meagre in-

come of the club which the small fee of membership provides. The club holds weekly Monday evening meetings from November 1st to May 1st, which are intended to provide for the social and educational wants of the neighborhood and also for amusement. A lively interest has been kept up, with a full attendance. The club has the free use of a very prettily arranged hall, centrally located, where from time to time discussions upon farm topics are held by the members. Popular scientific and other lectures are given by many distinguished gentlemen, who kindly come for the good that they can do the club. The younger members are encouraged to volunteer frequent declamations, dialogues, etc., which are always welcomed by the club. The young ladies have formed a Choral Union, for the purpose of providing singing with piano accompaniment as an opening exercise for the meeting. Musical and other entertainments are frequently given by friends of the clubs from other towns. A social picnic is usually held in August, and the ladies of the club provide elaborate refreshments from time to time as occasion may require. The influence of the club has been to enhance the much-needed social condition of the neighborhood. It has developed and brought out much latent talent in various directions. It has been a beneficence to the educational, social and moral standing of those communities, probably more than anything else could have secured.

The West Newbury Farmers' Club is one of the oldest in the county. Their fairs, usually held in September, every other year, draw large crowds of farmers and others. A dinner and speeches from invited guests are prominent features of the occasion. They hold ten or fifteen meetings for discussion during the year in different parts of the town, with an occasional lecture. A visiting committee is appointed to inspect farms and growing crops, which are

reported to the club, much interest is manifested, and good results to the farmers of the town have been secured.

Newbury, Ipswich, Rowley, Georgetown, all have their farmers' organizations for discussions, lectures and social intercourse. They are all in a healthy condition, and the members feel that they are benefitted by them.

Wenham has recently formed a club under favorable auspices; discussions have already been provided for.

The Bradford Farmers' and Mechanics' Association is an active, healthy organization, holding frequent meetings for discussion, and an annual picnic or steamboat excursion down the Merrimac river, which is a rare social occasion, much enjoyed by the families and invited guests of the members; and an annual festival in the winter for social enjoyment. They also hold an exhibition as often as every second year, with great success.

The Andover Farmers' Club has been organized eight years. They have meetings for discussion, a visiting committee to report the condition of farms and crops, and an annual festival which is highly enjoyed by the large attendance of members and invited guests.

The Topsfield Farmers' Club is not as large or active as some others, but more interest is now manifested, and it is hoped that the discussions that are in prospect for the winter will give new life and energy to the organization.

The West Peabody Farmers' Club is probably one of the most lively clubs in the county. The discussions held at their weekly meetings are sharp and spicy. With a fine musical company among its membership, they are eminently social; male and female, old and young, of the neighborhood, are included in this club. They held their first exhibition last September, which was a great success, complete in all its details.

There have been organized during the past year, Gran-

ges of Patrons of Husbandry in the towns of Amesbury, North Andover and Ipswich, under very favorable auspices, with good prospects of success. These are strictly farmers' organizations, possessing all the advantages of a farmers' club, and much more that a farmers' club cannot have. This is the beginning, probably, of many more that may follow when more is known of the Order of the Patrons of Husbandry.

The effect of these several farmers' organizations in the county has been very marked in the improved agriculture, in the talent for discussion and criticism that has been developed, and the importance and value of more careful observation by farmers. They have proved of great assistance to the mother Essex County Agricultural Society in providing accommodations for the Farmers' Institutes held in the past six years in different parts of the county. And the committee feel highly gratified at being able to report so healthy a condition of these organizations.

BENJAMIN P. WARE,
For the Committee.

FARMERS' INSTITUTES.

The Institutes of this Society, eight in number the past season, have shown increased attendance and interest. No farmer or person of other pursuits who has attended any of these meetings need have gone away without taking with him some new practical idea or established fact, to be of after benefit to him in the duties of life. No person interested in Agriculture in Essex county can afford to miss these Institute meetings, for aside from the benefits derived from the instructive essays and the mutual exchange of experiences and opinions which the discussions draw out, the coming together from all parts of the county

as we do in different places, thus becoming acquainted with each other and forming more social relations, is of mutual benefit by expanding those sentiments which were never intended to lie dormant in the human breast.

It should be remembered that all our Institute Meetings are open to every person who desires to listen to or take part in its discussions, without regard to age or sex. There is nothing exclusive about them; they are free to all. Members of our Society should cordially invite their neighbors to participate in them.

The opening essays or papers of the several meetings have been with hardly an exception of more than usual merit, and it is to be regretted that they cannot find room in our annual report.

The first Institute of the season, and the 37th one of the Society, was held Dec. 8, 1885, at the Town Hall, Andover. Seventy persons were present at 9.30 A. M., when President Ware called the meeting to order, to listen to George D. Forristall of Tewksbury, foreman of the State farm at Tewksbury, whose excellent paper on "The Silo and Ensilage" was ably discussed by Messrs. Ware of Marblehead, King of Peabody, Gulliver of Andover, Butler of Georgetown, Case of North Reading, Morse of Lowell, Evans of Amesbury, Holt of Andover, Ayers of Methuen, Dr. Bailey, and others. At the afternoon session, Vice President James P. King presided, and President Ware read an essay on "Indian Corn Culture," which was an able and exhaustive paper. Messrs. Holt, Butler, Gulliver, T. C. Thurlow of West Newbury, and Mr. Hilton of Bradford took part in the discussion that followed.

The next Institute was intended to be held in Georgetown December 29th, but a disastrous fire in that place on December 26th caused its postponement, and its place of meeting was changed to Methuen.

The 38th Institute was held at Methuen in Memorial Hall with good attendance, Jan. 7th, 1886. The forenoon discussion was on "The Production and Marketing of Milk," opened by James P. King of Peabody, followed by Messrs. Hazleton, Ware, Holt, and others. The subject in the afternoon was "Some Lessons and Suggestions from the Farm Experience of 1885," by Hon. J. J. H. Gregory of Marblehead, who gave a very interesting and instructive talk on his experience and the lessons it had taught, which brought out numerous questions and the experiences of others.

The 39th Institute was held at Peabody Town Hall, Jan. 26, 1886, with a large attendance. The subject of the forenoon, "The Comparative Merits of General and Special Farming," was ably presented by Rev. O. S. Butler of Georgetown, and was discussed by Messrs. Tapley and Janvrin of Revere, Ware of Marblehead, King of Peabody, Chesley of Salisbury, Hon. Warren Brown of Hampton Falls, N. H., Hill of Amesbury, and Marsh of Peabody. The afternoon essay, "Forestry and Pasture," by Hon. J. J. H. Gregory of Marblehead, was deeply interesting, and contained valuable facts which the after discussion of the subject developed.

The 40th Institute was held in the Town Hall, Ipswich, Feb. 12, 1886. Mr. Bartlett, the essayist for the forenoon, being absent on account of stormy weather, the afternoon subject was taken up, a very instructive paper, mostly from experience, on the question, "Is Raising Stock and Fattening Beef Practical for Essex County?" being presented by Charles J. Peabody of Topsfield, followed by instructive discussion. During the noon recess a large party visited the Ipswich Creamery, where butter making had been commenced on the 18th of January previous, and at the time of the meeting was in successful

operation with a capacity of one hundred pounds per day. For the afternoon discussion, James P. King of Peabody was called upon to give his experience with Fertilizers, which he did, greatly to the credit of "commercial fertilizers." His talk on the subject brought out the experiences of others, which with discussions made a very interesting meeting.

The 41st Institute was held in Memorial Hall, Bradford, Feb. 26, 1886, on a day in contrast of the preceding Institute at Ipswich, where the rain poured down, while at Bradford a violent and heavy snowstorm greeted us, and obliged quite a number to spend the night in Georgetown on our way home, on account of non-arrival of snowbound train, to make connection. The meeting, however, was a very interesting one, and well attended, considering the storm. "The Influence of Agriculture on Climate" was the subject of the forenoon, opened by Michael W. Bartlett of West Newbury, with the reading of a paper of more than usual originality and merit, and no one who listened to it could help gaining valuable information, or new subjects of thought. Col. John E. Russell, who was to speak in the afternoon on "The Horse in His Relation to Agriculture," was prevented by the storm from being present. Dr. William Cogswell of Bradford, a well-known lover of the horse, was called upon, and filled with credit the Colonel's place, and his talk, with the interesting discussion which ensued, gave information of benefit to every horse owner, including in its range the strong and weak points of the horse's nature, physical, intellectual and moral; also the raising, breaking or controlling, and the care and feed of colts and horses.

The 42d Institute was held March 16, 1886, in Grand Army Hall, Beverly, and was opened by Baxter P. Pike of Topsfield, on the question, "Does Agriculture Offer the

Same Inducements to Young Men as Other Pursuits?" whose handling of the subject brought out such able discussion that an audience of some three hundred were deeply interested until its close at the dinner hour. In the afternoon, the subject of "The Potato and its Culture," was opened by Edmund Hersey of Hingham, who gave his "lecture on the potato," which was full of interesting facts and valuable information based on the results of experiments made by him for a series of years in the growing of this vegetable. In response to questions, Mr. Hersey and Mr. Gregory added to the information on the subject.

In response to a communication from the Houghton Horticultural Society of Lynn, asking the aid of the Society in securing the appointment of an Arbor Day, Mr. Gregory offered the following resolution, which was adopted:

Resolved, That it is the belief of the members of the Essex Agricultural Society that it would be for the interest of the State and greatly promote the planting of shade trees along the highways and byways of Massachusetts to have the first of May, or any other better day, appointed by His Excellency Governor Robinson, as Arbor Day.

The 43d Institute was held March 30th, 1886, at Lyceum Hall, Salem. The forenoon subject, "The Horse in Agriculture," was opened by Col. John E. Russell, Secretary of the State Board of Agriculture, in his usual enthusiastic and spicy way of taking up a subject in which he is interested, and in replying to the pertinent inquiries which he invokes from his audience. The discussion which followed showed conclusively that there was a difference of opinion among the speakers in regard to the management, care and feed of horses, some of the methods giving practical and useful information. Mrs. E. V. Gage of Bradford was expected in the afternoon, to give her views on

"Farm and Peasant Life, as seen in short tour in Austria and Germany," but her non-appearance caused the subject to be changed to "Flowers," on which Prof. John Robinson of Salem and Mrs. Maria H. Bray of West Gloucester opened the meeting and were followed by others interested in Horticulture, which made the afternoon meeting a pleasant and profitable one.

The 44th Institute was held April 21, 1886, on the farm of Hon. George B. Loring of Salem, "for the exhibition and trial of implements used in the cultivation of crops." Exhibitors of ploughs could use their own team and driver if they chose and plough as they pleased, *but not less than* seven inches deep; teams being provided on the grounds for those who desired them. It was a perfect day, and brought together several hundred from all parts of the county. The judges of the merits of the machines were each man for himself to form his own opinion of which excelled. The display of implements was quite large, J. L. Colcord of West Peabody and Whitcomb & Carter of Beverly being the largest contributors, others being Parker & Wood of Boston, George G. Creamer of Hamilton, C. W. Mann of Methuen, E. E. Lummus of Beverly (or Boston), C. L. Huse of Newburyport, C. H. Thompson & Co. of Boston, Joseph Breck & Son of Boston and J. R. Whittemore of Chicopee Falls, and comprised implements of the best kinds for every purpose used in the cultivation of crops.

Many of those present improved the opportunity to examine the horses and cattle in the well-ordered barns of Dr. Loring.

Thus ended a season of successful Farmers' Institutes, notwithstanding the inclement weather experienced at several of them. We were fortunate in nearly all places in having good dinners at the usual price served to us by ladies

of charitable organizations, thus being enabled to help them, as well as to sit down together at the social board near the places of meeting, and with the ladies' assistance help ourselves to abundance of well prepared food.

DAVID W. LOW, *Secretary.*

POULTRY ON THE FARM.

ESSAY, BY O. S. BUTLER, OF GEORGETOWN.

That poultry raising is naturally an important department of agricultural industry, no one can doubt; notwithstanding very many persons are engaged in poultry raising who have no interest in common with farmers or farming, still it remains a fact that no farm is quite complete without its well-arranged poultry yards. But this industry is subject to the same fluctuations as any and all other business, sometimes reaching the highest standard of volume and profit, and then dropping down to the lowest point of remunerative profit, because the business is overdone and poultry and eggs become a drug in the market. But these fluctuations are felt more by the fancy breeder or specialist than by the ordinary farmer who raises about the same number of chickens every year, and supplies his customers with new-laid eggs and clean, toothsome poultry at about the same price from year to year.

The facts and opinions that follow in this discussion are the result of many years of experience, and of very close and careful observation made during the last year, by visiting the large poultry yards of this and other states, and by conversing with their proprietors in a friendly way.

The first question that will naturally arise in the minds of persons contemplating the poultry business as a pro-

spective industry will be, "What kind of fowls shall we raise?" Well, my friends, that depends upon what you intend to do, and how much you know about the business, and how much money you wish to invest. If you wish to go into the breeding of fancy stock, and get your profits from the sale of birds straight bred and properly mated, with the requisite number of points in feather and form, or if you wish to dispose of your eggs for hatching purposes, then I would say to you, take any of the standard varieties, it makes no difference which, build your houses and yards on the most approved plan, without regard to cost, put into your buildings all the modern appliances that have been thoroughly tested for the artificial raising of poultry, such as incubators and brooders, with the means for heating your buildings and the cooking of food, and if you do not understand the business very thoroughly yourself, then employ some one that does, to assist you in starting your operations, then advertise your business very extensively in several of the poultry journals of the country, (advertising is a trade by itself), then attend all the poultry shows within your reach, exhibit your birds to the best advantage, take the first premiums if you can, and you will make money if you have pluck and patience.

What will it cost to commence in this way? Well, if you do not wish to raise more than one thousand chickens a year, and have your land, it will not cost more than one thousand dollars, that is, if you are not extravagant in your outlay, but if you get the best of everything, and hire the most of your work done, then you can double the amount before you will begin to realize anything from the sale of eggs or birds.

But if you are a farmer or mechanic, and wish to raise and keep from twenty to one hundred fowls, deriving your profit from the sale or use of eggs and poultry at the or-

dinary price, after supplying your own table with the best you have, then I should say, select any one of the approved breeds of Asiatic fowls, and in most instances, a cross between these and the Plymouth Rock or Leghorn will improve them both. I have found the best results by crossing the Light Brahma with the Plymouth Rock, realizing more pounds of eggs and poultry, and of a better quality, than from any other breeds. These fowls are more easily housed and yarded, are good growers, and usually are very hardy and healthy.

We should advise you to raise your chickens in the natural way. While the modern incubator and brooder is a success in the hands of an expert who has plenty of time and a natural taste for that business, the practical farmer or the working mechanic has no business with them unless he wishes to experiment with them at great cost of time and temper, to say nothing of money.

The best time to hatch your chickens is in March or April. It is a great mistake to suppose that chickens leaving the egg in June or July will do better than earlier in the season. We have found that chickens hatched in March or April are more hardy and free from vermin than those that come later in the season, and besides this, your chickens will mature earlier in the season, realizing a good price for all the male birds you may wish to dispose of, leaving your pullets all ready to drop their first egg in September, when by judicious feeding, you can keep them laying until New Year's day, covering just the time when eggs bring the highest price. Then they will commence laying again about the middle of February to give you eggs for hatching.

The best feed for poultry is grain of all kinds, supplemented by meat scraps, ground bone and sea shells. Fish waste is excellent for a change. You should not permit

your fowls to devour all the filthy offal that is thrown from your kitchen. They will eat it if they can get it. But good clean food means good clean eggs and poultry for your table or the market.

The most important time to give special attention to the feeding of your poultry is when they are chickens. I have seen many a brood of fine fowls, well kept and well fed, but giving no eggs in return, for the simple reason that their diet was entirely neglected when they were chickens. If you would have your fowls commence dropping their eggs when they are six months old, and continue through the year with short intervals of rest while moulting, then you must commence to feed them on egg-producing food when they are very young, so that when they are six months old, their whole body will be permeated with egg-producing properties, and then they cannot help laying a bountiful supply of rich, clean eggs. Our rule is, not to give our chickens any food at all till they are two days old. Then we give them a small feed of boiled eggs cut fine, or bread crumbs, if convenient. Soaked crackers are good. We follow this by giving them a feed of dough made of oat and corn meal mixed. We use no other meal on our premises but oats and corn ground together in equal parts. We have used it for hogs, horses and hens for more than thirty years, and consider it the best. When our chickens are from four to five weeks old, we begin to give them whole grain, or broken wheat and oats. Our regular bill of fare is as follows: In the morning, a warm mash of meal and cooked vegetables; at noon, a good generous feed of oats; and at night, give them all the whole corn they will eat. We like to have them go to their roosts with a full stomach. One of the most important articles of diet for poultry is vegetables. They need, and will devour a very large amount of vege-

tables at any and all seasons of the year, and at all stages of their growth. When your chickens are two weeks old, they will relish a little green grass, or potatoes chopped fine. Every farmer should cut and stow away a sufficient amount of vegetables in the fall, for winter use. Cabbages, potatoes and turnips are excellent. And that there be no waste, we keep an old tray and knife, and chop our green food fine. The parings from fruit and vegetables, even cabbage stumps, are relished by them on a cold winter day. When your supply of vegetables is all exhausted, then you can fall back on your haymow. One hundred fowls will eat one-half ton of clover hay in five months' time, and it will do them good. The best way to prepare it for use is to take your hay (second crop is best) and run it through the hay-cutter, and then put it into a box or firkin, then sprinkle it over with hot water, cover the vessel tightly, and in two hours' time take off the cover and see how quickly they will devour it. They will leave all other food for this. Every mechanic should cut the fine, short grass that grows around the house or yard, cure it, and store it away for winter use, if he would please the inhabitants of the poultry house, and it would improve the appearance of his dooryard as well as furnish toothsome food for his fowls.

The next question in order of special interest to the poultry grower is as to what kind of a house does he need. Well, that depends upon what you want to do. If you want to keep only a few fowls for your own use and pleasure, then you will spend as much for beauty and ornament as you do for real use, only remembering that twelve fowls require about a twelve foot square room. The cheapest and most convenient poultry house that we have ever seen was built of 3x4 joist for a frame and covered with matched boards. The roof and walls were covered

with tarred paper, and when dressed with a coat of coal tar, was rendered entirely impervious to the atmosphere or storm, and will last for many years. They were built about ten feet wide, shed roof, the front posts about seven feet high, the back posts about five feet high, the front facing the south, and lighted with one common size window about every twelve feet. Most of our modern poultry houses have too much glass, giving too much heat at midday and too much cold at midnight. The extremes are too great even with the above described windows. They should be protected by tightly fitting shutters on cold winter's nights.

The most important matter in connection with your poultry house is ventilation. No animal on your farm needs so frequent a change of air as your poultry. Some persons advocate taking the impure air from the bottom and others from the top of the house. We do not think it makes much difference which method you adopt, if you have your arrangement under perfect control and easily regulated. Some poultrymen prefer a ground floor, others prefer a board floor, and others still prefer a cemented floor. For ourselves, we prefer a tight board floor for our house, with a chance for the chickens to get at the ground through a run into the yard, if they desire to. The advantages of the tight board floor are, it can be kept clean and dry. Dampness is death to young chicks. You can cover it with sand or other absorbents, as you wish. Your chickens are entirely protected from rats, skunks or weasels. The cemented floor has these advantages, but it costs three times as much as the board floor. Such a house as I have described will cost about one dollar and fifty cents per running foot. If you can perform the work yourself, you can reduce the cost one-third. We have seen these houses built nearly two hundred feet long, and

divided into separate apartments of about twenty feet in length by wire netting. If you have an old building that you wish to convert into a poultry house, you had better fumigate it well by burning saltpetre and sulphur, and then ceil up the inside tightly with matched boards, giving a smooth surface for your paint or whitewash.

The one great enemy to your chickens, young or old, is vermin. Of these there are two kinds. It is as natural for poultry to generate or breed vermin as it is for them to eat, and many a fine brood of fowls is rendered entirely useless by these pests of the hen-house. What are the remedies or disinfectants? Well, we prepare our nests for setters or layers as follows: We put a little salt hay into the box after saturating it well with kerosene oil, then we fill the boxes as full as is necessary with pine sawdust or shavings. These are excellent disinfectants and absorbents as well. Then we occasionally sprinkle the boxes with dry sulphur or carbolic acid. We use a great deal of carbolic acid about our nests and roosts. We give our fowls the means to take a dust bath in coal ashes or road dust, which is equally as good, and then, as often as twice a year, we fumigate our houses by burning sulphur and saltpetre in them with the doors and windows closed tightly. No vermin can live one minute in that sulphurous odor.

The next question that will arise in the minds of those contemplating this business prospectively is, will it pay? after doing all this, will it pay? We think it will; taking one year with another, we think it will pay you better than any other industry connected with farming, with the same amount of capital invested. If any man tells you he can make a profit of four or five dollars per year on every hen, and forty dollars apiece on every duck, you may make up your mind that he has a secret that the ordinary

farmer does not possess. But we feel very confident, after keeping an account with our poultry yards for some time, that when grain is worth sixty cents a bushel, you can make poultry for about seven or eight cents a pound, and eggs for about ten cents per dozen, giving you from one dollar and fifty cents to two dollars profit on every fowl, if you manage shrewdly and economically. In this calculation we reckon the manure as compensation for your labor.

Is it profitable to raise ducks? Of this you must be your own judge. All that we have said in regard to chickens will hold true in regard to ducks. They need the same treatment and attention as chickens. They need a little more feed. They will eat more. But they do not need any more water than chickens. They will do better on close confinement than chickens. If you have a good market, try the ducks. The Pekin duck is our favorite.

How about turkeys? Well, I should not touch them until they are well cooked and on the table. There is no profit in raising turkeys in Essex county as a business, and they are too costly an ornament for the ordinary farmer.

THE KITCHEN GARDEN.

ESSAY, BY M. B. FAXON, OF SAUGUS.

It seems as if enough had already been said and written urging every farmer to have a kitchen garden separate from his crops which are grown for sale; but observation will show that not one farmer in ten does have a garden that is entitled to be called such in every sense of the word. It is my intention in this essay to try and explain.

what can be raised in a garden of suitable size to supply a family of ten persons, and what such a garden will cost.

A garden containing one acre, and even less space, will amply supply ten persons with all the luxuries of the season, and as most farmers can spare that amount of land as well as not, we will take one acre as a basis.

In order to cultivate vegetable products in a satisfactory way, proper attention must be given to the preparation of the soil. Having selected the location, the first step is to see that the ground is properly drained, so that all surplus and stagnant water which may accumulate can pass freely away. After this has been effected, the ground should be trenched as deep as the nature of the soil will admit, and thoroughly enriched with plenty of good manure.

Our acre is now ready to plant, and we will say that it is April 1st.

Suppose the piece to be oblong in shape, say one hundred feet wide by four hundred and thirty-six feet long; which divided into rows will give one hundred and nine rows, each row one foot wide, (that is, the surface upon which the seeds or plants will be placed), and one hundred feet long, with three feet between each row, ample space for horse cultivation.

I will now mention the varieties of vegetables suitable for the kitchen garden, with short hints for their culture; leaving the number of rows planted of each sort, date of planting and ripening, yield, etc., for a concise table at the end of the essay.

Peas.

The pea comes earliest to maturity in light, rich soil. For general crops, a deep loam or a soil strongly inclining to clay is the best; for early crops, mild manure, such as leaf-mould, should be employed. Plant as early as the

weather will permit, in well-prepared soil, and cover two or three inches deep; if the surface of the ground should become "crusty," a good raking just as they break ground will be very beneficial. For a continuous supply during the season, make plantings from early in April until the last of June; then sowings should be discontinued until the middle of August, when an extra early sort (Bliss's American Wonder is good for this purpose) will sometimes produce a good crop. For first early, Bliss's American Wonder and Early Daniel O'Rourke will be found both prolific and of good quality; for general crop, McLean's Advancer, Yorkshire Hero and Champion of England still lead. One quart of peas will plant one hundred feet of drill.

Beans.

Under this head I shall describe two varieties, Dwarf or Bush and Pole or Running.

Dwarf or Bush Beans, although more hardy than Pole Beans, should not be planted before settled mild weather. They do best in warm, light soil, but will flourish in almost any soil or situation, unless it be shaded or very wet. Plant in drills three to three and one-half feet apart, and, for thickness in the row, one quart will plant about one hundred feet of drill; cover two inches deep. Never disturb the vines when moist, or the pods will become rusty. For succession, plant from early in May until the last of August. Golden Wax, Dwarf Horticultural and Early Long Yellow Six Weeks are the cream of the dwarf varieties for snap beans; Dwarf Horticultural is also an excellent shell bean.

Pole or Running Beans, as a class, are less hardy than the Dwarfs, and are not usually planted so early in the season. From the 20th of May until the 1st of June is about the right time. The hills should be three or three

and one-half feet apart each way; three good plants in a hill are enough, as these beans need plenty of light and air to do well; cover two inches deep. The poles should be firmly set before the beans are planted, and the earth slightly raised around them. The maturity of some of the later sorts will be hastened by nipping off the runners when they have reached four or five feet in height. One quart will plant about one hundred and fifty hills. Limas and Seivas, being very tender, should not be planted before the ground is warm and mellow, say about June 1st. Large White Lima, Seiva or Small Lima and Pole Horticultural are the best shell beans, while Indian Chief Pole is an excellent snap bean.

Sweet Corn.

Corn requires a good soil and a warm situation. Commence for first early by planting the early varieties about May 1st; and if a continuous supply is wanted all summer, make plantings about two weeks apart from May 1st until the last of July, first planting early varieties, then later ones. Plant in rows three feet apart, and make the hills about the same distance apart in the rows. Five kernels in the hill are plenty. Cover about one inch deep for early, and a little deeper for late; thin to three plants in a hill. The following varieties are first-class in every respect: early varieties, Extra Early Marblehead, Early Minnesota and Early Crosby; for general crop, Potter's Excelsior, Burr's Mammoth and Stowell's Evergreen. One quart will plant about one hundred and fifty hills.

Beets.

The soil best suited to the beet is a deep, light and rich sandy loam. For early beets, the seed should be sown about the middle of April, or as soon as the ground is in good working condition, in drills twelve to fourteen inches

apart, and thinned to ten inches apart in the drills. For winter crops, the 1st of July is about the right time to plant, perhaps a little earlier; have the drills the same distance apart as for early beets, but do not thin to more than four or six inches apart in the drills, as, the weather being warmer, they will grow as well at this season as early ones grow in April thinned to ten inches apart. Cover the seed one inch deep. Early Bastian and Dewing's Early Turnip are the standards for early and late crops. Beet tops are very popular as greens, being very tender, and when cooked are preferred by many to spinach or dandelion. One ounce will sow fifty feet of drill.

Cabbage.

All of the varieties are propagated from seed sown annually. For early use, sow about February 15th, in the hot-bed, green-house, or in a box in a sunny window, covering the seed about one-half of an inch deep; the plants will be ready to set in the open ground about April 20th, before which time they should be transplanted, in order to make them stocky. Cabbages grow best in a rich, loamy soil, which should be prepared by very heavy manuring (as high as twenty cords per acre being used with profitable results by market gardeners); lap two furrows together about three and one-half feet apart, and beat them down nearly level with the fork. Set the plants twenty-two to twenty-four inches apart, according to the quality of the land. It takes about six thousand plants to set an acre. A handful of wood ashes thrown into the forming heads will not only keep off the cabbage fly, but will also assist the growth of the plants to a considerable extent. For late crops, sow from the 1st to the 20th of June in the field, or in beds so as to transplant. If planting the seed in hills, thin to the same distance as for early; if

transplanting the plants from the seed-bed into the field, set the same distance (many set thicker, but just as much cabbage can be raised from the same piece of land by raising large heads as small ones, with less labor of cultivation). Late cabbages do not require as strong land as early ones. Henderson's Early Summer, Fottler's Improved Brunswick and Stone Mason Drumhead are all good varieties.

Carrots.

A good, light and well-enriched sandy loam which is very finely pulverized will grow carrots to perfection. For early crops, cover one-half of an inch deep, and thin to six inches apart in the rows; for late, cover three-fourths of an inch, and thin to four inches. A good strain of Danvers Half-Long Carrot is best for general use. Carrots should be planted about May 1st.

Cucumbers.

Cucumbers in the open ground should be planted about June 1st, in hills six feet apart, and thinned to three plants in a hill. Manure used should be old and fine; or still better, plant on land from which a crop has been taken which was heavily manured for that crop. Plenty of water is the most important point. A sprinkling of dry plaster will keep off the striped bug. Improved White Spine and Long Green Prickly for the table, and Boston Pickling for pickles, are leading kinds.

Lettuce.

Lettuce is well known as furnishing, among its varieties, the best vegetable of the salad kind grown in the open garden; it is also grown largely under glass, hundreds of acres being devoted to growing this crop in this country alone. It requires a rich, moist soil, and, to be crisp and

tender, needs to be grown in cool weather. Plant in rows, and cover the seeds one-fourth of an inch deep, and thin out the plants to twelve inches apart. If plants are used, set them twelve inches apart. Lettuce plants are grown about the same as cabbage plants, a full description of which was given in the first part of this essay. For New England, the Black Seeded Tennisball for solid heads and the Boston Fine Curled for a curled lettuce, are both very fine.

Onion Sets.

Sets are small onions which produce early plants for salad or large bulbs for table use, much earlier than they could be grown from seed. They should be set out about April 20th and covered two inches deep. When the tops have died (about the middle of July), the sets should be gathered and spread thinly, in a dry, cool place. I especially recommend them for small gardens, and those wishing a few early onions. There are White, Yellow and Red Onion Sets, but the White are by far the best, being of good quality and mild flavor.

Parsnips.

Sow as early in the spring as the weather will permit, in rows, covering the seed one-half of an inch deep; when well up, thin out to five or six inches apart in the rows. Parsnips are improved by frost; and it is a usual custom to take up in the fall a certain quantity for winter use, leaving the rest in the ground until spring, to be dug as required. Aside from the value of the parsnip as a table vegetable, it is one of the best roots for cultivation for farm purposes, furnishing a very nourishing food, particularly adapted to and relished by dairy stock. The Long Smooth White is the favorite for general use; roots long and smooth, very productive, and an excellent keeper.

Potatoes.

The potato can be grown with varying success on soils of all kinds and in all conditions of fertility. Pasture lands or new land with the turf freshly turned, produce the most abundant as well the most certain crops. On heavy soils, and land that has been long under cultivation, it is apt to be diseased and of inferior flavor. Plant in rows three feet apart, so as to cultivate with horse, and drop the seed ten or twelve inches apart in the rows; cut to two eyes, with a good amount of the potato around same, so that the young plants may have plenty of nourishment until the roots get well established. Phosphate will grow a good crop of smooth, fine-flavored tubers, when barn-yard manure would cause them to become diseased. Cultivation should commence as soon as the young plants are fairly above the surface of the ground, and continue until the appearance of the blossoms, when no further attention will be required till harvesting time. At each successive hoeing, gather the earth about the plants, adding a little each time, for support, and also to develop the side shoots. When the bugs arrive, use Paris green; one or two applications will destroy them. I consider the following varieties the best for general cultivation, and in the order named: Early Beauty of Hebron, Early Rose, Clark's No. 1 and Pearl of Savoy.

Radish.

The radish will thrive best in rather light soil, and to be crisp and tender, needs to be grown quickly. For early spring use, sow in hot-beds about January, and every ten days or so make fresh sowings. For summer use, sow in drills in the open ground as early as possible (the ground needs to be pretty dry and warm), and thin to two or three inches apart; if a continuous supply is wanted

through the season, make sowings as above every ten days or two weeks. The French Breakfast and Early Long Scarlet are both excellent sorts.

Squash.

The squash is a tender annual, and should not be planted until all danger from frost is passed, and the ground is warm and settled; as aside from the tender nature of the plant, the seed is liable to rot in damp, cool weather. The hills should be nine feet apart each way, and thoroughly manured. Slightly elevate them, and on this place seven or eight seeds, so as to have plenty for the bugs. The bush varieties, such as Summer Crookneck, White Bush Scollop, etc., may be planted a little nearer together. Press the seeds down firmly before covering, and cover early planted ones one inch deep, and late, one and one-half inches. Ground plaster is about as good an article as has yet been found for keeping off the bug. Plant Early Summer Crookneck and White Bush Scollop for summer use; Boston Marrow for fall; and Hubbard, Essex Hybrid and American Turban for winter.

Tomato.

Tomato plants should be set out about June 1st, in rich soil, the plants being set five feet apart in the rows. Their cultivation is very simple; make them very rich and keep them free from weeds seems to be about all that is required. Just before frost, take up the vines, and place them in the cellar with plenty of earth around the roots, and what tomatoes have not been picked (that are fully grown) will ripen. The favorite varieties are Acme, Livingston's Perfection, Cardinal and Emery; I should have said the above four varieties are favorites, as there are so many good tomatoes that it is very difficult to make a selection.

Turnip.

The turnip is propagated from seed, and should be planted where the plants are to remain, as they do not succeed well when transplanted. Sow for early crops as soon as the ground can be made ready in the spring, in good, rich soil, in rows three feet apart, and thin out according to the variety. The principal trouble in planting turnips is that of getting them so thick that it makes a great deal of labor in trimming. The Swede turnips are planted later, about June 1st; while the Purple Top varieties may be planted either early or late, and as late as August 15th, a good crop of them may be secured. The Sweet German turnip is an excellent sort for winter, and should be planted about June 20th to July 1st for the best results. This turnip is also called the Cape turnip, and is raised extensively on Cape Cod, Mass.

Farm Account.

The following table gives an exact account of my garden of one acre; showing dates of planting and harvesting, cost of production, etc. It will be remembered that we divided this acre into one hundred and nine rows, each row one hundred feet long:

Name of Variety Planted.	No. rows planted, each variety.	Date of Planting	Began H'rvesting.	Finished H'rvesting.	Total Yield.	Amount of seed used.
Pea, Early Daniel O'Rourke,	1	April 13	June 20	June 25	2 1-2 bu. pods.	1 quart.
Pea, Bliss' American Wonder,	1	" 21	" 27	July 4	2 bu. pods.	1 quart.
Onion Sets, White,	2	" 21	July 19	Sept. 20	2 bu. onions.	2 quarts.
Pea, Abundance,	1	May 4	" 19	July 19	1 1-2 bu. pods.	1 pint.
Pea, Everbearing,	1	" 4	" 13	" 20	2 bu. pods.	1 pint.
Carrot, Danvers,	1	" 4	Aug. 15	Sept. 30	2 1-2 bushels.	1 ounce.
Parsnip, Long White,	10	" 5	Sept. 15	Oct. 10	28 bushels.	1-2 pound.
Sweet Corn, Early Cory,	1	" 14	Aug. 1	Aug. 15	145 ears.	1-2 pint.
Potato, Early Beauty of Hebron	60	" 24	" 20	Sept. 25	92 bushels.	5 bushels.
Cabbage, Stone Mason,	5	" 25	Sept. 10	Oct. 1	200 good heads.	400 plants.
Pea, Stratagem,	1	" 27	July 30	Aug. 7	1 1-2 bu. pods.	1 quart.
Bean, Dwarf Golden Wax,	1	" 27	" 21	" 2	3 bu. pods.	1 quart.
Squash, Summer Crookneck	1	" 27	Aug. 18	Sept. 30	68 squashes.	1 ounce.
Sweet Corn, Moore's Concord,	2	" 29	" 25	" 14	252 ears.	1 pint.
" Burr's Mammoth,	2	" 31	Sept. 7	Oct. 1	210 "	1 pint.
" Stowell's Evergreen,	2	" 31	" 5	" 6	275 "	1 pint.
" Black Mexican,	2	" 31	Aug. 20	Sept. 11	250 "	1 pint.
" Early Minnesota,	2	" 31	" 28	" 19	280 "	1 pint.
Tomato, Emery,	2	" 31	" 25	Oct. 4	7 bu. ripe, 3 bu. green	2 doz. plants
Cucumber, White Spine,	1	June 2	" 9	Sept. 2	300 cucumbers.	1 ounce.
Beet, Dewing's Turnip Blood,	4	July 2	Oct. 1	Oct. 10	8 1-2 bushels.	1-4 pound.
Turnip, Purple Top,	5	" 10	Sept. 25	" 10	17 bushels.	1 4 pound.
Pea, Bliss' American Wonder,	1	" 15	" 1	Sept. 5	1 1-2 bu. pods.	1 quart.

Summary.

Total cost of	seeds and plants,	$10.93
" "	manures,	30.00
" "	planting,	20.00
" "	summer cultivation,	15.00
" "	harvesting,	10.00
Interest and taxes,		6.00
		$91.93

You will notice that there is no winter squash in the list, but families that wish for it can substitute winter squash for potatoes or parsnips; in other words, change the list to meet your own wants.

The above quantities of vegetables will supply a family of ten persons one year. Now if $91.93 will supply ten persons with vegetables for one year, then one-tenth of $91.93 must supply one person one year; and it seems to me that $9.19 for vegetables for one person one year is cheap enough.

STATEMENT IN REGARD TO SHEEP HUSBANDRY IN ESSEX COUNTY.

To the President of the Essex Agricultural Society:

You will find enclosed my Sheep Report for 1886. You are at liberty to use it in any way you see fit.

These sheep were bought at the Watertown market and were culled from flocks from Maine, Canada and Vermont. Some of them were old and diseased, in consequence I lost 30 head by disease, and 12 were killed by dogs. The increase from the 400 was about 500. I have no doubt that a flock of fine young ewes would pay a profit of $4 per head.

Very respectfully, your obedient servant,

W. W. Foster.

SHEEP ACCOUNT.

Dr.	400 sheep, bought in January, 1886, at a cost of		$1700.00
	50 tons meadow hay, at $10 per ton,		500.00
	100 bushels corn, at 60 cts. per bushel,		60.00
	100 bushels oats, at 40 cts. per bushel,		40.00
	Care of sheep, one man one year, at $30 per month,		360.00
	Pasturage,		100.00
	Shearing,		40.00
	Total,		$2800.00
Cr.	350 lambs, average price $4,	$1400.00	
	200 sheep, " $4,	800.00	
	2200 lbs. wool, at 21 cts.,	462.00	
	40 pelts, at $1,	40.00	
	50 cords manure, at $5,	250.00	
	300 sheep and lambs on hand,	1200.00	
	Total,	$4152.00	

Peirce Farm, Topsfield, Jan. 1, 1887.

REPORT OF THE COMMITTEE ON ESSAYS, REPORTS AND STATEMENTS.

The Committee designated to award premiums for Essays, Reports and Statements have taken pleasure in the performance of their duties, because the papers submitted to them this year have seemed to them to be specially meritorious, and to fill the conditions imposed by the Society. Papers upon agricultural topics contain necessarily more or less matter which is not new, and as they

are written usually by persons who are not professional authors, they are not always "presented in a form worthy of publication," as required by the rules. But the Committee had little chance for criticism in this respect the present year. They are gratified to be able to make this statement, because they believe that good essays and good reports are the most attractive features of the "Transactions." They hope to receive more essays another year, as they are confident that many members of the Society could furnish, from their large experience and from their thought, many facts and suggestions which would enrich the Society's annual publication.

The Committee have awarded the first premium of $15 to O. S. Butler, of Georgetown, for an essay entitled "Poultry on the Farm." This is an excellent paper, full of practical matter, and entertaining suggestions which seem to be pertinent and useful. The subject is a good one, and is receiving more and more attention each year.

The second premium of $10 has been given to M. B. Faxon, of Saugus, whose essay on "The Kitchen Garden" will be read with interest. The ideal garden which he lays out is, as we understand, substantially a description of the author's own garden in Saugus.

In the matter of reports, the Committee's attention was given to an excellent report on "Ornamental Trees," by Francis H. Appleton, of Peabody, and to him they awarded the first premium of $10. To some very utilitarian minds this subject may seem fanciful, and they may consider that those who assign it a place of little or no importance are not mistaken. But those who think that pleasant surroundings, agreeable prospects and grateful shades have a value as real and as measurable as anything else, will agree with the Committee in placing it in the front rank of topics for discussion.

Another very excellent report was submitted to the Committee, on "Root Crops," written by B. F. Huntington. If there could be two best reports, we might rank this with the other. The author has evidently expended much time and money in visiting the farms of Essex county, and he brings in good accounts of their condition and what has been done thereon during the past year. All practical cultivators will peruse this report with avidity, and will derive much information and many suggestions therefrom. Mr. Huntington has been awarded the second premium of $8.

The third award of $6 has been made to Joseph How, of Methuen, for a report on "New Apples and the Codlin Moth." Both of these subjects are important to farmers and the public, and perhaps no one has given more attention to them for many years than Mr. How. The results of his observations and studies are given in this report, which the Committee are pleased to present to the members of the Society.

The Committee made no awards for best statements.

For the Committee,

GILBERT L. STREETER, *Chairman.*

G. L. Streeter, Daniel E. Safford, N. M. Hawkes, Charles P. Preston, David W. Low—*Committee.*

IN MEMORIAM.

Your committee appointed by the Society to prepare appropriate notice of the members of the Society who have died during the past year, to be published in the Transactions, would report that the list of members in each town and city has been sent to the Trustee of the Society, representing each town or city, for revision, and requesting from them brief notices of the deaths that had occurred in their place, from which, or other sources, the following is submitted:

Asa A. Abbott, of Andover, died Jan. 11, 1886, aged 87 years. He was a prominent citizen, having represented the town in the State legislature several terms, and filled for many years the offices of Selectman, Town and Parish Assessor, and other minor offices, and for over twenty years past took much interest in this society.

Aaron Dodge, of Beverly, died Feb. 3, 1886, aged 73 years, 6 months. He was proprietor of a grist mill for forty years. He held several town offices, the boards of Selectmen and Overseers of the Poor being the most prominent. He was a member in 1850.

Samuel D. G. Stanley died in 1886, aged about 75 years. He became a member in 1850.

"Thomas W. Hazeltine, of Bradford, died Sept. 2, 1886, aged 67 years. He was a successful farmer, and a member of this Society for 25 years, serving on many of its committees with credit to himself and our society. He had accepted places on two committees, and virtually died with his harness on."

George W. Ordway, of Bradford or Haverhill, died Sept. 26, 1886, aged 51 years. He was a shoe manufacturer, and joined our Society in 1855.

James Lourie, of Danvers, died Oct. 25, 1886, aged 65 years. He became a member in 1876.

Levi Merrill, of Danvers, died in September, 1886. He became a member in 1857.

Daniel Richards, of Danvers, died in November, 1886. He became a member in 1858.

William H. Mears, of Essex, died May 27, 1886, aged 73 years. He became a member in 1859. He was a farmer and a manufacturer of codfishing lines, with an excellent reputation of fair dealing.

John Perkins, of Essex, died March 27, 1886, aged 73 years. He became a member in 1871. He was a successful merchant in the fishing business of Gloucester, where he resided several years, from which he retired to become a successful farmer at his later home in Essex.

Ira Hardy was born in a part of Bradford now Groveland, where he has always resided. He died suddenly, May 26, 1886, aged 78 years, 5 months. He owned a small farm, and was interested in his work upon it. He become a member of this society in 1865.

Daniel Atwood resided near the Merrimac river in Groveland, and died Oct. 6, 1886, aged 83 years, 8 months. He joined this Society twenty-five or thirty years ago, and took an interest in its work.

John J. Babson, of Gloucester, died April 13, 1886, in the seventy-seventh year of his age. He was its historian, and its school educator, devoting a lifetime to the welfare of its Schools, serving a great many years as Superintendent, or on the School Committee as chairman, and in many ways proved himself a public benefactor. He was called upon several times to serve as Representative to the State Legislature, and served one or more terms as Senator. He was for many years cashier of the Gloucester Bank. He was much interested in horticul-

ture, serving the Cape Ann Horticultural Society as president several years. He became a member of this society in 1869, and served as one of its Trustees in 1870.

Isaac Patch, of Gloucester, died July 4, 1886, aged 85 years. He was a very successful farmer, and at his death owned a large farm in Hamilton, and one in Gloucester. He joined this Society in 1855, and served as one of its Trustees from 1864 to 1870.

Daniel T. Babson, of Gloucester, died Oct. 4, 1886, aged 72 years. He was a man always interested in milch cows and the cultivation of small fruits, as a relaxation from his business as painter. He visited our Fairs yearly, and attended the last one at Newburyport this year. He became a member in 1871.

Aaron W. Bray, of Gloucester, died June 21, 1886, aged 55 years. He was the manager of the New England Halibut Company at the time of his death. He joined this Society in 1872.

George James, of Gloucester, died Feb. 14, 1886, aged 68 years. He was greatly interested in horses, and kept a livery stable. He became a member of this Society in 1870, has served on its committees, and has taken premiums for horses and colts at various times.

Robert Fears, of Gloucester, died Aug. 27, 1886, aged 79 years. He was a sail-maker by occupation and business until he retired. He was a Director of the First National Bank, and always an active and successful business man. His interest in agriculture was mostly confined to his garden. He became a member of our Society in 1872.

Charles W. Dennison, of Gloucester, died Sept. 23, 1886, aged 80 years. He was a retired sea captain, and devoted his time, aside from looking after what business interests he had, in doing good to others in a quiet way. He became a member in 1872.

JOSEPH P. GARDNER, of Hamilton, died Oct. 16, 1886, about 26 years of age. He joined our Society early in the year, and being a young farmer of ability, gave promise of usefulness to the Society, of which his early death has deprived us.

"JOHN P. GILMAN, of Haverhill, died April 13, 1886, aged 59 years. He was an active business man, formerly a shoe manufacturer and afterward a hat manufacturer, and also largely interested in real estate."

"ISRAEL K. JEWETT, of Ipswich, died suddenly Oct. 26, 1886, aged 87 years, 8 months. Before the advent of the railroad, he drove an express team from Ipswich to Boston, which railroad competition caused him to abandon, and for fifty years past kept a grocery store in Ipswich. The deceased was a successful business man and prospered in whatever he undertook, being a man of strict integrity and always recognized as a safe man with whom to deal." He became a member in 1869.

JACOB RHODES, of Lynn, died in 1886. He became a member in 1872.

JAMES B. KNIGHT, of Newbury, died in 1886, aged 75 years. For forty years or more, he was engaged in the grain business at the tide mill at Knight's Crossing, on the Eastern railroad, and later at the City Steam Mills, Newburyport, where he had an extensive business. Aside from this, he took an active interest in farming, having raised some of the largest crops of English hay and potatoes ever raised in that town. At his death, his herd of milch cows was among the best in that section of the county. He became a member in 1879.

JOHN F. KIMBALL, of North Andover, died the 1st of September, 1886.

EUNICE L. SMITH, of Newburyport, a member of this Society, died July 7, 1886, at the age of 51 years. She

was a farmer's wife, and always ready for her part in life.

CHARLES H. IRELAND, of Newburyport, died Sept. 15, 1886, aged 70 years. He was a large real estate owner, and well known to the whole community. He joined this Society in 1868.

JOHN SUMNER, of Newburyport, died Aug. 29, 1886, aged 59 years. He was a stove dealer, and took an active part in the Society's exhibition of 1885. He joined the Society in 1856.

WILLIAM BRITCHER, of Newburyport, died June 15, 1886, aged 73 years. He was a market gardener for many years, and a very successful one. He became a member in 1856.

"Major LEWIS ALLEN, of Peabody, died Nov. 15, 1886, at the ripe old age of 92 years, 3 months, 20 days. While he had been an active business man all his life, he made his home on his farm, and so long as his health allowed was an actively interested member of the Essex Agricultural Society, being one of its oldest members, and on its Board of Trustees from 1846 to 1857, and Vice President 1857 to 1870. He was called to the offices of selectman and assessor, representative in the General Court, trustee of the Peabody Institute, captain of the Danvers Artillery and later major for five years, when he resigned. He was also county commissioner; and his name will also be found in numerous positions of other important trusts. He was an energetic farmer, combined with his other business; and to the active part which he took in that natural occupation, he was undoubtedly largely indebted for his healthy and well-balanced mind and body which he possessed until so near the last of his long life. His manly form and bright, intelligent countenance were always conspicuous at our Fairs; and well does the writer remember his thoughtful and interested remarks concerning our useful

Society, at one of the last autumn meetings at which he was present."

"On September 22, 1886, passed away MALACHI F. BATCHELDER, at the age of 74 years and 5 months, after a long and painful illness, a respected citizen of Peabody, of modest and retiring disposition. He was one of the best market-gardeners in his vicinity, as the variety of his crops and his frequent success in competition for prizes at our County Shows well proves. His crops were always carefully and well cultivated, and in return they commanded the highest market prices. His fields were extensive and yielded largely per acre. He was an exponent of an industrious farmer, with perseverance and good judgment combined, and his example and influence will be missed by all who knew him, not less at the annual Fairs of the Essex Agricultural Society than elsewhere." He joined this Society in 1871.

JOSEPH HALE, of Rowley, died March 13, 1886, aged 65 years. He was one of the foremost men of the town, serving on its Board of Selectmen many years, and a prominent worker in the local Farmers' Club. He was interested and active in the affairs of our County Society, joining it in 1870, serving as a Trustee in 1871 and 1877.

JOSHUA FOSS, the oldest resident of Rowley, died Dec. 25, 1886, aged 87 years.

MAURICE BIRMINGHAM, of Salem, died March 25, 1886, aged 65 years. He was a regular attendant at our Fairs, and will be missed there by many friends. A member in 1879.

WILLIAM S. MESSERVEY, of Salem, died Feb. 19, 1886, aged 73 years, 6 months. In early life he was in business in the West. At one time he was a Delegate to Congress from the Territory of New Mexico, and at another time Secretary and Acting Governor. In 1854 he returned to

Salem, and in 1856 and 1857 was its Mayor. He was a member of this society in 1856.

Benjamin S. Newhall, of Salem, died April 3, 1886, aged 79 years, 7 months. He was clerk of the contractors who built the Eastern Railroad, and was afterwards a farmer in Danvers several years. He became a member in 1853.

Joseph Pulsifer died in Salem Oct. 19, 1886, aged over 88 years. He was born in Ipswich, and went to Salem at the age of 14 years to learn painting, and led a life of industry, economy and honest dealing, and earned success. He was one of the founders of Barton Square Church, and Naumkeag Fire Club, of Salem, and the pioneer in manufacturing painted carpets. He joined this Society in 1839.

Elbridge Merrill, of West Newbury, died in 1886, aged 72 years. "Deacon Merrill" has been one of our oldest and most valued members. For more than twenty years he has attended our annual gatherings, serving as trustee for several years, always with credit to himself and the society. All who knew him mourn his loss.

George G. Peirce, of West Newbury, died in 1886, at about 25 years of age. He joined our Society in 1882, and was awarded two premiums this year for fruit crops. He was a young man of much promise, and was loved and esteemed by all who knew him.

Moses Hill, of Revere, a non-resident member of the Society, has died in 1886.

Again the busy reaper, Death, has passed through our county, gathering for the better land a bountiful harvest during the year, from the members of this society. One from every thirty-five has been taken home; in Gloucester, one from every thirteen. Those who have left us have contributed each in their own way to the success and

progress of our society and to a greater or less extent according to their ability or opportunity, leaving regret for their loss. The Society extends to all who mourn the loss of those near and dear to them, its sympathy in their affliction.

DAVID W. LOW,
For Committee.

Dr. GILBERT L. STREETER, TREAS., IN ACC'T WITH THE ESSEX AG'L SOCIETY. Cr.

1885.		1885.	
To balance of previous account,	$986 80	By amount of Premiums and Gratuities awarded by the Trustees,	$1604 25
To Bank Dividends for October,	389 30	Bills paid for Printing and Advertising,	301 49
To State Bounty received,	600 00	Amount paid to Salem Athenæum,	25 00
To Cash received from Committee in charge of Annual Exhibition,	42 00	Rent, Postage and Printing, paid for Institute meetings,	24 25
To State Tax on Bank Stocks refunded,	188 76	Final settlement with C. P. Preston, Secretary,	249 77
To Cash received for new members,	123 00	The Secretary's account,	274 51
To Account of the Treadwell Farm,	300 00	The Treasurer's account,	51 68
To Bank Directors for April,	407 56	Balance,	601 96
To amount of unclaimed premiums,	95 50		
	$3,132 91		$3,132 91

Funds belonging to the Society, October, 1886.

10 shares in National Hide and Leather Bank, Boston,	$1101 87
3 shares in National Revere Bank, Boston,	377 62
18 shares in First National Bank, Salem,	1914 66
18 shares in Salem National Bank, Salem,	2000 00
42 shares in Asiatic National Bank, Salem,	1281 25
12 shares in Mercantile Bank, Salem,	1226 50
23 shares in Merchants' Bank, Salem,	1189 50
5 shares in First National Bank, Danvers,	375 00
8 shares in National Exchange Bank, Salem,	800 00
16 shares in Warren National Bank, Peabody,	1595 40
15 shares in South Danvers National Bank, Peabody,	1441 25
Cash on hand,	601 96
Amount carried forward,	$18,905 01

Amount brought forward,	$18,905 01
Funds reported last year,	14,289 85
Loss,	$384 84

G. L. STREETER, Treasurer.

Salem, Nov. 10, 1886.

SALEM, Jan., 1887.

The above account has been examined this day, and found correctly cast and properly vouched and the funds on hand correctly reported.

JOS. H. PHIPPEN.

LIST OF PREMIUMS AWARDED IN 1886.

FAT CATTLE.

J. P. Little, Amesbury, for pair oxen, first premium,	$10 00
J. P. Little, Amesbury, for pair oxen, second premium,	8 00
Farmer H. Greeley, Salisbury, for pair oxen, third premium,	4 00

BULLS.

Francis Gulliver, Andover, for Jersey bull, over two years old, first premium,	10 00
H. H. Hale, Bradford, for Jersey bull over two years old, second premium,	5 00
Ben: Perley Poore, West Newbury, for Short Horn bull over two years old, first premium,	10 00
Wm. C. Cahill, Danvers, for Ayrshire bull under two years old, second premium,	3 00
H. H. Hale, Bradford, for Jersey bull under two years old, first premium,	5 00
D. A. Massey, Danvers, for Ayrshire bull calf, "Queer," No. 8821, A. B. A. R., instead of 882 as printed in report, first premium,	2 00

MILCH COWS.

T. N. Cook, Newburyport, for Milch cow, first premium,	10 00
T. N. Cook, Newburyport, for butter cow, first premium,	10 00
T. N. Cook, Newburyport, for butter cow, second premium,	4 00
Jere. Cashman, Newburyport, for best Milch cow, special premium,	15 00
Jere. Cashman, Newburyport, for Milch cow, second premium,	4 00
Francis Gulliver, Andover, for Jersey cow, first premium,	10 00

Francis Gulliver, Andover, for Jersey cow, second premium, 4 00

HEIFERS—FIRST CLASS.

Francis Gulliver, Andover, for Jersey in milk, second premium, 4 00

Francis Gulliver, Andover, for Jersey calf, first premium, 4 00

D. A. Massey, Danvers, for Ayrshire calf, first premium, 4 00

D. A. Massey, Danvers, for Ayrshire heifer, second premium, 2 00

HEIFERS—SECOND CLASS.

P. A. Perkins, Newbury, for three year old Grade Ayrshire in milk, first premium, 10 00

O. F. Lewis, Salisbury, for three year old Grade Jersey in milk, second premium, 4 00

E. S. Toppan, Newburyport, for three year old Short Horn, first premium, 4 00

Elbridge Tenney, Newbury, for twenty-six months old Grade Jersey, second premium, 2 00

T. K. Bartlett, Newburyport, for twenty months old Dutch, first premium, 4 00

J. F. Smith, Salisbury, for fourteen months old Grade Jersey, second premium, 2 00

Jere. Cashman, Newburyport, for three months old Grade Jersey Calf, 4 00

WORKING OXEN AND STEERS.

C. U. Burbank, Amesbury, oxen, first premium, 12 00

Carlton Little, Newbury, oxen, second premium, 10 00

Wm. Bryant, West Newbury, oxen, third premium, 8 00

R. T. Jaques, Newbury, steers, first premium, 10 00

TOWN TEAM.

Town of West Newbury, oxen, first premium, 20 00

STEERS.

C. U. Burbank, Amesbury, two year old steers, first premium, 6 00

James Noyes, Newbury, two year old steers, second premium, 5 00

Wm. H. Perkins, Newbury, yearling steers, first premium, 5 00

Edward Illsley, Newbury, yearling steers, second premium, 4 00

Mrs. M. L. Moody, West Newbury, steer calves, first premium, 4 00

STALLIONS—FIRST CLASS.

H. H. Hale, Bradford, three year old stallion, first premium, 8 00

STALLIONS—SECOND CLASS.

C. C. Hewitt, Newburyport, four years old stallion, first premium, 10 00

BROOD MARES.

C. N. Maguire, Newburyport, mare and foal, first premium, 10 00

E. E. Bartlett, Newburyport, mare and foal, second premium, 6 00

Frank Perkins, Newbury, mare and foal, third premium, 4 00

FAMILY HORSES.

S. P. Hale, Newbury, family horse, first premium, 10 00

John C. Tarlton, West Newbury, family horse, second premium, 6 00

Peter Holt, Jr., North Andover, family horse, third premium, 4 00

GENTLEMEN'S DRIVING HORSES.

Peter Holt Jr., North Andover, white mare, first premium, 10 00

Jere. Cashman, Newburyport, gelding, second premium, 6 00

C. U. Burbank, Amesbury, gelding, third premium, 4 00

FARM HORSES.

J. A. Illsley, Georgetown, farm horse, first premium, 10 00

J. Otis Winkley, Newburyport, farm horse, second premium, 6 00

Michael Reddy, Ipswich, farm horse, third premium, 4 00

DRAFT HORSES.

Peter Holt Jr., North Andover, draft horse, first premium, 10 00

Wm. W. Perkins, Newbury, draft mare, second premium, 6 00

John Ronan, Newburyport, draft horse, third premium, 4 00

PAIRS OF FARM HORSES.

Walter F. Dodge, Beverly, farm horses, first premium, 12 00

C. N. Maguire, Newburyport, farm horses, second premium, 8 00

PAIRS OF DRAFT HORSES.

Charles Bennett, Gloucester, draft horses, first premium, 12 00

Jere. Cashman, Newburyport, draft horses, second premium, 8 00

Jere. Cashman, Newburyport, draft horses, third premium, 4 00

COLTS FOR DRAFT PURPOSES—FIRST CLASS.

H. H. Hale, Bradford, three year old mare, first premium, 10 00

COLTS FOR DRAFT—SECOND CLASS.

E. E. Bartlett, Newburyport, colt one year old, first premium, 6 00

A. J. Stockbridge, Rowley, yearling mare colt, second premium, 4 00

M. B. Chesley, Amesbury, two year old colt, first premium, 6 00

R. Jaqnes, West Newbury, two year old colt, second premium, 4 00

COLTS FOR GENERAL PURPOSES—FIRST CLASS.

O. N. Fernald, Danvers, mare colt, four years old, first premium, 10 00

F. W. Evans, Newburyport, filly, four years old, second premium, 6 00

C. C. Cook, Bradford, mare, four years old, third premium, 4 00

George H. Whipple, Lynn, mare, three years old, first premium, 8 00

Daniel Tenney, Newbury, gelding, three years old, second premium, 5 00

COLTS FOR GENERAL PURPOSES—SECOND CLASS.

Woodbury Smith, Rowley, two year old colt, first premium, 6 00

H. H. Hale, Bradford, two year old colt, second premium, 4 00

B. W. Bartlett, Rowley, one year old colt, first premium, 6 00

O. N. Fernald, Danvers, one year old colt, second premium, 4 00

SWINE, FIRST CLASS OR LARGE BREEDS.

Wm. W. Perkins, Newburyport, breeding sow, first premium, 8 00

L. P. Hale, Newbury, breeding sow, second premium, 5 00

Michael Reddy, Ipswich, Jersey red sow, first premium, 8 00

Edward S. Knight, Newbury, grade Berkshire boar, first premium, 8 00

Wm. W. Perkins, Newburyport, weaned pigs, second premium, 5 00

SWINE, SECOND CLASS OR SMALL BREEDS.

Wm. W. Perkins, Newbury, weaned pigs, first premium, 8 00

Wm. W. Perkins, Newbury, breeding sow, first premium, 8 00

SHEEP.

Matthew H. Toomey, Newbury, Coltswold sheep, first premium, 10 00

Matthew H. Toomey, Newbury, Coltswold buck, first premium, 8 00

PLOUGHING WITH DOUBLE TEAMS.

Noyes & Little, Newbury, with two yoke oxen, first premium, 12 00

Wm P. Coffin, Newbury, with two yoke oxen, second premium, 10 00

Wm. W. Perkins, Newbury, with two yoke oxen, third premium, 9 00

PLOUGHING WITH HORSES.

Chas. N. Maguire, Newburyport, with one pair, first premium, 10 00

S. F. Newman, Newbury, with one pair, second premium, 7 00

Walter F. Dodge, Beverly, with one pair, third premium, 5 00

PLOUGHING WITH THREE OR FOUR HORSES.

J. Kent Adams, Newbury, with four horses, first premium, 10 00

Frank Perkins, Newbury, with three horses, first premium, 10 00

PLOUGHING WITH SWIVEL PLOUGH.

Jonas M. Rollins, Danvers, with two horses, first premium, 10 00

PLOUGHING WITH SULKY PLOUGH.

A. J. Stockbridge, Rowley, first premium, 10 00

IMPROVING WET MEADOW AND SWAMP LAND.

B. H. Farnum, North Andover, first premium, 15 00

S. A. Jaques, West Newbury, second premium, 10 00

GRAIN CROPS.

J. J. H. Gregory, Marblehead, rye crop, first premium, 10 00

Oliver P. Killam, Boxford, corn crop, first premium, 10 00

ROOT CROPS.

Asa T. Newhall, Lynn, onion crop, first premium, 10 00

John H. George, Methuen, onion crop, second premium, 5 00

John H. George, Methuen, potato crop, first premium, 10 00

Stephen A. Jaques, West Newbury, potato crop, second premium, 5 00

J. E. Page, Supt. Pickman farm, Salem, cabbage crop, first premium, 10 00

Daniel Carlton, Andover, cabbage crop, second premium, 5 00

J. W. Blodgett, Saugus, mangold crop, first premium, 10 00

Walter Smith & Co., Methuen, turnip crop, first premium, 10 00

James Manning, Topsfield, turnip crop, second premium, 5 00

Cyrus K. Ordway, West Newbury, carrot crop, first premium, 10 00

Asa T. Newhall, Lynn, squash crop, first premium, 10 00

FOREST TREES.

Benjamin P. Ware, Marblehead, ornamental trees, first premium, 10 00

STRAWBERRIES AND OTHER SMALL FRUITS.

George G. Peirce, West Newbury, strawberry crop, first premium, 10 00

George G. Peirce, West Newbury, raspberry crop, first premium, 10 00

Benj. W. Farnum, North Andover, blackberry crop, first premium, 10 00

NEW MEMBERS.

John Q. Evans, Salisbury, most new members, premium, 6 00

ESSAYS AND REPORTS.

O. S. Butler, Georgetown, essay, "Poultry on the Farm," first premium, 15 00

M. B. Faxon, Saugus, essay, "The Kitchen Garden," second premium, 10 00

Francis H. Appleton, Peabody, report on ornamental trees, first premium, 10 00

B. F. Huntington, Amesbury, report on root crops, second premium,	8 00
*Joseph How, Methuen, report on new apples and the codlin moth, third premium,	6 00

*NOTE.—Mr. Howe is 86 years of age.

MASSACHUSETTS AGRICULTURAL COLLEGE SCHOLARSHIP.

George E. Newman, Newbury, yearly payment of 1884 award,	25 00

OTHER AWARDS.

Awarded by Committee on Poultry,	37 00
" " " " Agricultural Implements,	47 00
" " " " Carriages,	17 00
" " " " Dairy,	24 00
" " " " Bread, Honey, etc.,	22 00
" " " " Pears,	103 50
" " " " Apples,	109 75
" " " " Peaches, Grapes, etc.,	74 50
" " " " Flowers,	56 00
" " " " Vegetables,*	158 00
" " " " Grain and Seed,†	32 00
" " " " Counterpanes and Afghans,	31 00
" " " " Carpets and Rugs,‡	26 50
" " " " Articles man'f'd from Leather	5 00
" " " " Manufact's and Gen'l Mdse.,	20 00
" " " " Fancy Work and Art Work,	51 50
" " " " Children's Work,	15 00
	$1732 75

CORRECTION.—*Gratuity, 50 cents, was awarded to M. M. Ridgeway, Newbury, for Queen of the Valley Potato, instead of $1, as printed on 63d page. †$5 second premium was awarded to Aaron Low, Essex, for collection of seed, instead of $3, as printed on 65th page. ‡75 cents gratuity was awarded Mrs. S. J. Woodward, West Newbury, for woven rug, instead of 50 cents as printed on 68th page.

RECAPITULATION.

FARMS.

Awarded for Ploughing,	$93 00	
" " reclaiming swamp land,	25 00	
" " Ornamental Trees,	10 00	
		$128 00

FARM STOCK.

Awarded for Fat Cattle,	$22 00	
" " Bulls,	35 00	
" " Milch Cows,	57 00	
" " Heifers,	44 00	
" " Working Oxen and Steers,	40 00	
" " Town Team of Oxen,	20 00	
" " Steers,	24 00	
" " Horses,	162 00	
" " Colts,	83 00	
" " Swine,	50 00	
" " Sheep,	18 00	
" " Poultry,	37 00	
		$592 00

FARM PRODUCTS.

Awarded for Grain Crops,	$20 00	
" " Root Crops,	90 00	
" " Fruit Crops,	30 00	
" " Fruits,	287 75	
" " Dairy,	24 00	
" " Bread, Honey, etc.,	22 00	
" " Flowers,	56 00	
" " Vegetables,	158 00	
" " Grain and Seed,	32 00	
		$719 75

MISCELLANEOUS.

Awarded for Agricultural Implements,	$47 00	
" " " Essays and Reports,	49 00	
" " " College Scholarship,	25 00	
" " obtaining largest number of new members,	6 00	
" " Domestic Manufactures,	149 00	
" " Carriages,	17 00	
		$293 00

Total amount awarded in 1886,	$1732 75

OFFICERS OF THE SOCIETY
FOR 1886–7.

PRESIDENT,

BENJAMIN P. WARE, of Marblehead.

VICE PRESIDENTS,

GEORGE B. LORING, of Salem.
J. J. H. GREGORY, of Marblehead.
THOMAS C. THURLOW, of West Newbury.
JAMES P. KING, of Peabody.

HONORARY TRUSTEE,

JOSEPH HOW, of Methuen.

SECRETARY,

DAVID W. LOW, of Gloucester.

TREASURER,

GILBERT L. STREETER, of Salem.

TRUSTEES,

Charles C. Blunt, Andover.	Aaron Low, Essex.
B. F. Huntington, Amesbury.	Oliver S. Butler, Georget'wn.
John Meacom, Beverly.	Alonzo F. Harvey, Glouc'ster.
John Parkhurst, Boxford.	Nathan Longfellow, Grovel'd.
William Hilton, Bradford.	Alvin Smith, Hamilton.
Charles H. Gould, Danvers.	Richard Webster, Haverhill.

Alden Story, Ipswich.	James C. Poor, No. Andover.
Asa M. Bodwell, Lawrence.	Francis H. Appleton, Peab'dy.
John L. Shorey, Lynn.	Andrew Lane, Rockport.
John M. Danforth, Lynnfield.	Edward H. Potter, Rowley.
Wm. S. Phillips, Jr., M'head.	John Robinson, Salem.
Daniel W. Friend, Manch'st'r.	Samuel Hawkes, Saugus.
Chas. W. Mann, Methuen.	John Q. Evans, Salisbury.
James D. Pike, Merrimac.	David Warren, Swampscott.
O. Loring Carlton, Middlet'n.	George F. Averill, Topsfield.
C. N. Maguire, Newburyport.	Zachariah Cole, Wenham.
James Noyes, Newbury.	E. G. Nason, W. Newbury.

NEW MEMBERS — 1886.

*Joseph P. Gardner, Ham'lt'n.	Osman Babson, Gloucester.
Samuel Thayer, Andover.	Frederic F. Low, Gloucester.
Henry A. Hayward, Andover.	Alfred Presson, Gloucester.
Amos F. Chase, Lynn.	Eugene L. Wildes, Topsfield.
B. W. Rowell, Lynn.	John W. Parkhurst, Boxford.
Edwin Bates, Lynn.	James W. Chadwick, Boxford.
Furmer H. Greeley, Salisb'y.	George B. Austin, Boxford.
N. Tracy Getchell, Salisbury.	Daniel D. Adams, Newbury.
J. Q. A. Pettingell, Salisbury.	Edwin P. Noyes, Newbury.
John H. Eaton, Salisbury.	Edward Illsley, Newbury.
Wesley Pettingell, Salisbury.	Frank W. Evans, Newburyp't.
Abram L. Morrill, Salisbury.	Geo. W. Knight, Newburyp't.
P. Albert True, Salisbury.	James E. Page, Salem.
Robert Thornton, Salisbury.	Ezra K. Preston, Beverly.
Jona. H. Osborne, Amesb'ry.	Thomas E. Cox, Lynnfield.
William F. Vining, Amesb'y.	John Hazeltine, Bradford.
E. A. Goodwin, Amesbury.	William H. Smith, Rockport.
Fred'c Burnham, Manchester.	Horace Lane, Rockport.

*Deceased.

J. P. Little, Amesbury. Elbridge Tenney, Newbury.
C. U. Burbank, Amesbury. Wm. Bryant, West Newbury.
P. A. Perkins, Newbury. Stephen A. Jaques, W. N'wb'y
Carlton Little, Newbury. Charles Bennett, Gloucester.
Edw'd G. Knights, Newbury. Michael Reddy, Ipswich.
Matthey H. Toomey, Newb'y. George H. Whipple, Lynn.
James Kent Adams, Newb'y.

REMOVALS OF MEMBERS.

Andover — Addison M. Robinson to North Andover.
Boxford — B. Frank Barnes, to Haverhill.
Danvers — Beverly S. Moulton, to Boston.
Samuel W. Nourse, to Peabody.
Charles O. Putnam, to Wenham.
Moses W. Putnam, to Philadelphia, Pa.
William Lord, to North Beverly.
Lyman Wilkins, to Middleton.
Hamilton — Dudley H. Porter, to Saratoga, N. Y.
Lynn — John G. Barker, to Boston.
Middleton — Wm. B. Carleton, to Danvers.
John R. Wellman, to Lawrence.
Salem — C. A. Cooper, to Lynnfield.
Eben Jackson, to Danvers.
Topsfield — Arthur M. Merriman, to Manchester.
West Newbury — E. C. Little, to Haverhill.

CORRECTIONS OF 1884 LIST OF MEMBERS.

Methuen — S. C. Sargent should have been S. G. Sargent.
Saugus — Alfred C. Hill, omitted.
Peabody — David Osborne, died May 7, 1875, aged 84.
Georgetown — I. Adams Illsley should be J. Adams Illsley.

Members of Essex Agricultural Society,

DECEMBER, 1886.

Previous printed list was in 1884, errors in which have been corrected in 1885 and 1886 Reports. If any errors are discovered in the following list, please report them to the Secretary. Trustees are requested to report deaths of members as soon as they occur, with printed notice, when convenient.

AMESBURY—21.

Bailey, O. S.	Gale, Edmund	Lane, T. W.
Burbank, C. U.	Gale, Foster	Morse, Daniel L.
Cammet, Samuel	Goodwin, E. A.	Osborne, Jona. H.
Chesley, M. B.	Hill, Albert C.	Sawyer, Aaron
Chesley, John F.	Hill, J. Henry	Tibbets, William B.
Currier, W. H. B.	Huntington, B. F.	True, Eben
Feltch, Elbridge S.	Little, J. P.	Vining, William F.

ANDOVER—47.

Abbott, James J.	Chandler, Joshua H.	Holt, Ballard
Abbott, Nathan F.	Cheever, James O.	Jenkins, John B.
Abbott, Moses B.	Cummings, C. O.	Jenkins, E. Kendall
Abbott, Hartwell B.	Downing, J. J.	Johnson, Francis H.
Abbott, John B.	Flint, John H.	Johnson, S. K.
Andrews, M. C.	Foster, George W.	Mason, George F.
Barnard, Edwin H.	Foster, Moses	Morton, Marcus
Bailey, Moses A.	Foster, George C.	Rea, Jasper
Bean, Samuel G.	Gulliver, Francis	Ripley, George
Blunt, Charles C.	Gutterson, George	Smith, James B.
Blunt, J. H.	Harriman, Thos. P.	Smith, John L.
Bodwell, H. A.	Hayward, Henry A.	Smith, Peter D.
Buchan, George	Hazen, Nathan W.	Smith, Benjamin F.
Callahan, Robert	Hidden, David I. C.	Thayer, Samuel
Carter, Charles L.	Holt, E. F.	Upton, Edward C.
Carruth, Isaac	Holt, Joseph S.	

BEVERLY—54.

Appleton, Nathan D.	Dodge, Walter F.	Mason, Alphonso
Appleton, Isaac	Foster, David L.	Mason, George
Avery, Mark B.	Foster, Henry W.	Mason, Lyman
Baker, John I.	Foster, William A.	Mayo, Josiah
Bell, John	Friend, Seth	Meacom, John
Bliss, Edgar J.	Giles, Benjamin V.	Mitchell, John
Burnham, O. B.	Gould, Thomas	Morse, John T.
Carter, John W.	Haven, Franklin	Munsey, John G.
Clark, George	Herrick, Joseph H.	Paine, Charles C.
Connelley, Stephen	Hill, Hugh	Pitman, Mark
Cressy, Joseph	Lee, Asa F.	Porter, Adoniram
Danforth, E. F.	Lord, Cyrus W.	Preston, Ezra
Dodge, Andrew	Lord, William	Raymond, John W.
Dodge, Benjamin N.	Lawrence, C. A.	Stephens, Augustus
Dodge, Benjamin S.	Loring, Augustus P.	Trask, Joseph W.
Dodge, Joshua S.	Lovett, Francis S.	Walker, Lawson
Dodge, Richard	Lummus, E. E.	Waters, Richard P.
Dodge, Forest C.	Mason, Alfred A.	Waters, William C.

BOXFORD—27.

Anderson, Chas. R.	Cleveland, James P.	Day, Mrs. John
Andrew, Isaac W.	Cole, David M.	Hale, John
Austin, George B.	Cole, John K.	Herrick, Israel
Barnes, B. S.	Cole, Warren M.	Killam, Oliver P.
Chadwick, Geo. W.	Cole, Wm. Kimball	Ladd, John I.
Chadwick, James W.	Day, Isaac C.	Nason, James H.
Parkhurst, John	Pearl, John M.	Sawyer, Thomas
Parkhurst, John W.	Pearl, John	Styles, Charles F.
Pearl, Edw. E.	Perley, Charles	Wood, John T.

BRADFORD—38.

Bradstreet, Justin E.	Haseltine, Thomas	Kimball, Wm. B.
Cogswell, Doane	Hazeltine, Charles	Kimball, W. Eustace
Cogswell, George	Hazeltine, John	Kimball, M. Tenney
Cogswell, William	Hilton, William	Knight, Albert H.
Day, Albert J.	Hopkinson, Sam'l W.	Ladd, B. G.
Day, Royal	Johnson, Charles G.	Ladd, George W.
Ellis, John A.	Johnson, Laburton	Little, Mrs. M. P.
Emerson, Charles B.	Kimball, Albert	O'Brien, John
Gage, Edwin V.	Kimball, A. Laburton	Ordway, Alfred
Hale, H. H.	Kimball, Leverett	Ordway, Warren

Peabody, Frank
Peabody, Daniel
Perley, John
Phillips, G. Franklin
Poor, Charles H.
Tewksbury, John B.
Thornton, William
Webster, Charles E.

DANVERS—115.

Armitage, John S.
Allen, Henry C.
Bartlett, James A.
Berry, Allen A.
Berry, Eben G.
Batchelder, J. Q. A.
Bradstreet, Elijah
Bodge, Henry
Bodge, Horatio
Blake, John A.
Brown, William H.
Boardman, I. P.
Butler, J. C.
Clark, N. J.
Carlton, Wm. B.
Day, Clarence
Dempsey, L. P.
Dodge, Elnathan
Dodge, Francis
Eaton, Winslow W.
Fellows, Alfred
Fisher, Franklin W.
Faxon, George
Fowler, Augustus
Fowler, Samuel P.
Fuller, Solomon
Gaffney, Cornelius
Gould, Charles H.
Grosvenor, David A.
Grout, John
Gustin, John H.
Hill, Edward L.
Hood, R. B.
Hood, Joseph E.
Hutchinson, Edward
Jacobs, Wm. A.
Jackson, Eben
Johnson, George E.
Juul, Conrad
Kimball, Joel, Jr.
Kirby, Patrick
Langley, J. R.
Learoyd, A. P.
Lefavour, Mrs.
Legro, Edmund
Legro, John C. P.
Massey, Dudley A.
Martin, George B.
Martin, Walter F.
McCrillis, Ransom F.
Merrill, Walter S.
Morgan, Wm. B.
Mudge, Edwin
Mudge, Augustus
Nichols, Andrew
Nichols, Andrew, Jr.
Newhall, Benj. E.
O'Neal, T. H.
Patch, Abraham
Peart, William B.
Perley, Dean A.
Perley, Edward P.
Perkins, Henry A.
Perkins, Warren G.
Pettingill, David A.
Peabody, George H.
Pillsbury, H. H.
Pope, Ira P.
Porter, Benjamin F.
Pratt, Amos
Preston, Charles H.
Preston, Charles P.
Prince, Amos
Putnam, Ansel W.
Putnam, Edwin F.
Putnam, Israel H.
Putnam, Joseph C.
Putnam, John A.
Putnam, Joel
Putnam, Otis F.
Pratt, George
Pratt, Samuel S.
Porter, John W.
Pope, Daniel P.
Proctor, Nathan P.
Richardson, James
Richards, C. S.
Richards, George D.
Rollins, Jonas
Ropes, Joseph E.
Rice, Charles B.
Sears, John A.
Silvester, Joshua
Spaulding, Sam'l W.
Swinerton, John
Smart, John L.
Swazey, E.
Spring, Jacob E.
Tapley, George
Tapley, Gilbert A.
Trask, Alfred M.
Upton, Franklin W.
Verry, Augustus
Verry, Henry
Walcott, Wm. H.
Waldron, E. T.
Wallis, Samuel
Warren, Aaron W.
Weston, Wm. L.
Weston, Mrs. L. P.
White, Henry A.
Woodis, Alden B.
Woodman, Edw. E.
Whipple, John F.
Wilkins, Fred'k A.

ESSEX—21.

Andrews, Elias	Cogswell, Chas. B.	Knowlton, Herbert A.
Andrews, Joseph	Dodge, Grover	Knowlton, Perry B.
Andrews, Miles S.	Haskell, David L.	Lee, Edward K.
Burnham, D. Brainard	Haskell, George	Low, Aaron
Burnham, Washingt'n	Knowlton, Aaron	Low, Josiah
Burnham, Wm. Howe	Knowlton, David	Lufkin, A. E.
Choate, Rufus	Knowlton, Moses	McDonald, Daniel

GEORGETOWN—28.

Bateman, A. P.	Marble, Nathaniel	Preston, John
Butler, Oliver S.	Moulton, Daniel E.	Ridley, Amos
Chapman, Jonathan	Nelson, Sherman	Spofford, Sumner P.
Dole, Moody S.	Nelson, William	Tenney, George J.
Harriman, Hiram N.	Noyes, Henry P.	Tenney, Gorham D.
Hoyt, John A.	Osgood, Stephen	Tenney, Milton G.
Hoyt, Martin L.	Pettingill, Henry	Tenney, Moses
Huse, Ralph C.	Pillsbury, J.	Tenney, Orlando B.
Illsley, J. Adams	Poor, Samuel T.	Wheeler, William S.
Lovering, John H.		

GLOUCESTER—85.

Atkinson, John	Cronin, John	Haskell, William H.
Babson, Fitz J.	Curtis, Samuel, Jr.	Herrick, Gardner W.
Babson, Horatio	Dale, Eben, Jr.	Knowles, Thomas J.
Babson, Osman	Davis, James	Lane, Andrew
Barrett, Charles P.	Davis, William P.	Lane, George
Bennett, Charles	Dennen, George	Lawrence, R. C.
Bradford, George R.	Dodd, Stephen	Loring, Francis M.
Brown, Edward H.	Dolliver, John S.	Lovett, John H.
Burnham, A. M.	Dolliver, William C.	Low, David W.
Burnham, H. A.	Dolliver, William P.	Low, Frederic F.
Burnham, S. A.	Fears, Robert R.	Marr, Chester, Jr.
Calef, John C.	Ferguson, Thos. B.	Mayo, Israel C.
Carter, John S.	Foster, Jeremiah	Merchant, E. W.
Carter, Sherman J.	Friend, Elbridge G.	Norwood, George
Clark, John	Garland, Joseph	Parsons, W. Frank
Cole, Israel H.	Gilbert, Addison	Pattillo, Alexander
Conant, Thomas	Griffin, Bennett	Pew, William A.
Cook, Benjamin F.	Grover, Charles E.	Phillips, N. H.
Corliss, Benjamin H.	Harvey, Alonzo F.	Plumer, David
Corliss, John	Haskell, H. C. L.	Presson, David S.

Presson, Alfred
Price, Augustus E.
Procter, Joseph O.
Proctor, Wilbur F.
Ricker, Richard W.
Roberts, Joshua
Rogers, Allan
Rogers, John S.
Rust, William P.
Sanford, H. G.
Sawyer, Samuel E.
Shepherd, Joseph C.
Somes, John E.
Stacy, John H.
Stanwood, Barnard
Story, Cyrus
Thompson, Charles P.
Webster, Nathaniel
Wetherell, M. L.
Wilson, John J.
Witham, Addison
Wonson, Augustus H.
Wonson, F. G.
Wonson, George M.
Wonson, J. W.

GROVELAND—28.

Atwood, Moses
Balch, Thomas H.
Curtis, Edwin T.
Fegan, Henry C.
George, Edwin B.
George, Samuel B.
Harrington, Edward
Harriman, Moses H.
Harriman, Abel S.
Hopkinson, W. H.
Ladd, J. P. B.
Ladd, Nathaniel E.
Longfellow, N.
Longfellow, Samuel
Martino, Philip H.
Merrill, Burton E.
Parker, Eldred S.
Peabody, Walter S.
Pemberton, L. K.
Savary, Charles P.
Spofford, Henry H.
Stacy, Edward M.
Stickney, Abel
Tenney, George H.
Walker, George S.
Wardwell, Z. C.
Whitmore, Wm. F.
Woodbury, Louis A.

HAMILTON—28.

Abbott, Joseph B.
Allen, Francis R.
Brown, William A.
Creamer, George G.
Dane, Ephraim A.
Dane, George E. F.
Dane, John, Jr.
Dane, William A.
Dane, Sylvester
Dodge, Emerson P.
Dodge, George B.
Dunnels, Ira A.
Ellis, George W.
Gibney, George H.
Kimball, Isaac W.
Knowlton, Franklin
Knowlton, Isaac F.
Knowlton, Joseph
Lamson, Jarvis
Norris, George
Norwood, C. J.
Patch, Mrs. Oliver
Rankin, Eli C.
Robinson, E. P.
Safford, Daniel E.
Smith, Alvin
Whipple, Em. A.
Winslow, G. W.

HAVERHILL—86.

Barnes, Frank B.
Berry, J. M.
Bodwell, Stephen
Brickett, Barnard
Brickett, Daniel
Butters, Charles
Caldwell, William
Chase, Abel W.
Chase, C. W.
Cheever, H. W.
Cook, Justin T.
Corliss, Charles
Currier, Samuel M.
Davis, James
Dewhurst, James
Eaton, B. F.
Eaton, Harrison
Elliott, Samuel

Elliott, Samuel H.
Emerson, Albert
Emerson, E. A.
Emery, Benjamin E.
Farnsworth, J. H.
Fellows, Samuel
Fellows, C. H.
Fitts, D. F.
Flanders, Daniel D.
Frost, Henry
Gale, John E.
Gale, James E.
Gage, Edmund,
Goodwin, Rufus
Goodrich, T. J.
Hale, Edward
Hanson, M. W.
Haseltine, Amos Jr.
Heath, Albert
Hooke, Daniel
Howe, Moses
Ingalls, E. T.
Jeffers, William
Lackey, Andrew
Little, E. C.
Little, J. G. S.
Marsh, John J.
Merrill, William
Mitchell, E.
Mitchell, Seth K.
Moody, H. L.
Morse, John H.
Morse, C. E.
Merrill, Giles
Nichols, James R.
Nichols, John B.
Nichols, J. B.
Ordway, Joshua H.
Peabody, Stephen
Peters, Daniel
Poore, F. W.
Porter, Dudley
Randall, John P.
Richardson, John B.
Ridgeway, Jos. N.
Rhodes, C. N.
Sanders, Thomas
Smith, George S.
Sprague, W. W.
Stewart, John
Swett, Jackson B.
Taylor, Levi
Taylor, Martin
Taylor, Oliver
Titcomb, Beniah
Wadleigh, Levi C.
Wales, Herbert E.
Webster, Ebenezer
Webster, E. F.
Webster, Richard
West, H. K.
West, James F.
West, Thomas
Wheeler, Allison
White, James D.
Whittier, Alvah
Whittier, Warner R.
Winchell, James H.

IPSWICH—43

Appleton, Francis R.
Appleton, Daniel F.
Baker, S. N. Jr.
Bond, James W.
Brown, S. Albert
Brown, John
Brown, William G.
Caldwell, Abraham
Clark, Erastus
Fall, Tristram B.
Fellows, Alonzo B.
Gould, John J.
Grant, Joshua B.
Green, George H.
Haskell, George
Hobbs, John
Hodgdon, George
Hodgkins, Augustine
Horton, Joseph
Hunt, Samuel
Hurd, Y. G.
Jordan, Mrs. Robert
Kimball, Daniel
Kinnear, James
Kinsman, Joseph F.
Kinsman, William H.
Kinsman, Willard F.
Marshall, Joseph
Perkins, Isaac E. B.
Perley, David T.
Reddy, Michael
Rogers, Isaiah H.
Ross, Joseph
Rutherford, Aaron A.
Russell, Daniel S.
Shatswell, Nathaniel
Smith, Webster
Stone, Augustine
Story, Alden
Treadwell, William
Underhill, J. C.
Wade, Asa
Whittier, Maynard

LAWRENCE—38.

Ames, M. B.
Bodwell, Asa M.
Cabot, George D.
Currier, Eben B.
Currier, J. Merrill
Dow, Vigil
Drew, J. D.
Durant, W. A.
Fiske, E. A.
Flynn, Edward
French, A. J.
Gile, W. F.
Gilman, Frederick
Goodwin, John
Goodwin, Patrick
Goodwin, Francis J.
Halley, T. D.
Harmon, Nathan W.
Herrick, H. G.
Hills, George
Hood, Gilbert E.
Holt, Lewis G.
Keleher, W. A.
Lewis, S. T.
McAllister, J. G.
Merrill, George S.
Page, E. F.
Richardson, E. P.
Robinson, P. B.
Rollins, John R.
Russell, George W.
Russell, W. A.
Saunders, Daniel
Shattuck, Charles
Small, Henry
Victor, F. M.
Wellman, John R.
Wright, W. H. P.

LYNN—56.

Baker, Ezra
Bates, Edwin
Bates, Wallace
Beede, C. O.
Berry, Henry N.
Berry, Benj. J.
Breed, Henry A.
Breed, Richard
Chase, L. H.
Chase, Amos F.
Cross, Alfred
Cressey, John S.
Davis, Edward S.
Emery, George E.
Farrar, Jos. E.
Foster, George
Fry, Charles E.
Goodell, J. W.
Harnden, Henry C.
Harris, N. S.
Hawkes, Nathan M.
Hill, E. L.
Hovey, Rufus P.
Kimball, Rufus
King, W. P.
Marsh, George E.
Marsh, S. E.
Merrill, E. H.
Merritt, Timothy
Mudge, John
Neal, Peter M.
Newhall, Asa T.
Newhall, G. A.
Newhall, Hiram L.
Newhall George T.
Nichols, Otis
Nichols, Thomas P.
Norris, George, Jr.
Noyes, Geo. C.
Oliver, John E.
Parsons, Charles E.
Pevear, G. K.
Pevear, H. A.
Potter, Edward P.
Preble, J. H.
Rowell, B. W.
Roney, Simon J.
Sargent, George D.
Shorey, John L.
Shorey, George L.
Sawyer, J. A. J.
Tyler, Thaddeus W.
Usher, Roland G.
Whippen, H. C.
Whipple, Geo. H.
Winslow, Aaron

LYNNFIELD—13.

Bancroft, J. K.
Brown, Joseph
Cox, Thomas E., Jr.
Cooper, C. A.
Danforth, John M.
Hawkes, George L.
Herrick, George E.
Mansfield, Andrew
Newhall, Frank
Perkins, John
Perkins, John H.
Roundy, W. R.
Smith, Henry E.

MANCHESTER—12.

Allen, Luther
Allen, Wm. H.
Burnham, Frederick
Cheever, John H.
Cheever, William M.
Coolidge, T. Jefferson
Friend, Daniel W.
Lee, Allen
Merriman, Arthur M.
Price, John
Rabardy, Julius F.
Sturgis, Russell, Jr.

MARBLEHEAD—16.

Alley, Amos P.
Alley, Reuben
Appleton, Thomas
Childs, Caleb
Cloutman, B. Henry
Cronin, Michael
Dennis, W. John
Gregory, J. J. H.
Hathaway, Amos C.
Hathaway, Joseph B.
Hathaway, Seth W.
Nutting, John
Paine, Thomas W.
Phillips, Wm. S. Jr.
Ware, Benjamin P.
Ware, Horace

MERRIMAC—15.

Adams, George
Chase, William
Clement, M. G.
England, John J.
Haskell, Wm. H.
Hill, A. C.
Loud, L. C.
Nichols, Chas. H.
Pike, James D.
Sargent, M. Perry
Sargent, Bailey
Sargent, Geo. W.
Sargent, P. Willis
Sawyer, Thomas C.
Tewksbury, D. M.

METHUEN—28.

Bradley, George B.
Bradley, Frank J.
Buswell, Joseph E.
Butters, W. H.
Currier, Daniel
Crosby, John S.
Emerson, Jacob, Jr.
Frederick, John W.
Gage, George W.
George, John H.
Gutterson, B. G.
Goss, Chas. E.
How, Joseph
How, Joseph S.
Mann, C. W.
Morrison, D. T.
Morse, Jonathan
Nevins, Henry C.
Noyes, David W.
Patterson, D. H.
Pedlar, S. J.
Phippen, G. S.
Parker, Jas. O.
Sargent, S. G.
Sleeper, Wm. C.
Smith, Walter
Thurlow, J. E.
Tozier, C. L.

MIDDLETON—13.

Berry, William
Carlton, O. Loring
Christopher, Wm. P.
Currier, George A.
Flint, James
Hutchinson, J. A.
Phelps, William A.
Stiles, David
Stiles, Farnum
Stiles, Mrs. Farnham
Stiles, Hiram A.
Stewart, Mrs. S. A.
Wilkins, Lyman S.

NAHANT—1.

Goodale, Byron

NEWBURY—58.

Adams, Charles
Adams, Charles W.
Adams, Daniel D.
Adams, George W.
Adams, James K.
Bray, Richard S.
Bray, George W.
Boynton, Charles
Coffin, Wm. P.
Colman, Moses
Dole, Nathaniel
Goodrich, Wm. F.
Hale, Stephen P.
Howard, Horatio M.
Illsley, Edward
Illsley, Paul M.
Illsley, Joseph
Jaques, Richard
Jaques, Richard T.
Jaques, William
Jones, William
Kent, John N.
Knight, Edward S.
Kent, Edward
Little, Carlton
Little, Edward F.
Little, George
Little, Joseph
Little, Nathaniel Jr.
Little, William
Little, Wm. Burke
Longfellow, Horace F
Longfellow, Joseph
Longfellow, Jos. Mrs.
Lucy, Gideon R.
Lunt, Charles M.
Moody, Nath'l W.
Mann, Otis
Newman, Sidney F.
Noyes, Edwin P.
Noyes, Justin
Noyes, Horace P.
Noyes, James
Noyes, Luther
Noyes, Moses K.
Perkins, Wm. W.
Perkins, Frank
Perkins, Paul A.
Plummer, Daniel Jr.
Plummer, George H.
Randall, George A.
Rogers, Abial
Rolfe, Joseph N.
Tenney, Henry L.
Tenney, Elbridge
Tenney, Daniel G.
Toomey, Mathew H.
Woods, Charles W.

NEWBURYPORT—70.

Adams, Philip D.
Adams, J. Quincy
Adams, Rufus
Akerman, Joseph
Allen, John W.
Balch, John H.
Ballou, C. N.
Bartlett, T. K.
Batchelder, Dan'l C.
Bayley, Wm. H.
Boardman, Isaac H.
Cashman, Jeremiah
Capers, Thomas
Colby, George J. L.
Colby, George W.
Colman, James C.
Colman, William T.
Cook, T. N.
Cutter, Eben P.
Delano, Otis
Evans, Frank W.
Griffin, Eliphalet
Hale, Joshua
Hamlet, Daniel
Hart, James S.
Hewett, C. C.
Huff, William
Huse, William H.
Jackman, George W.
Johnson, Wm. R.
Kent, Otis L.
Knights, George W.
Knight, Joseph
Lewis, Samuel W.
Little, Hector
Little, John G.
Lunt, Charles
Maguire, C. N.
Merrill, Enoch
Merrill, George F.
Morrison, Daniel T.
Moseley, Edward A
Moseley, Edward S.
Mosely, Fred'k S.
Moulton, Henry W.
Moulton, Joseph
Nelson, David O. Jr.
Newhall, Asa T.
Northend, E. T.
Noyes, Isaac P.
Ordway, A. D.

Ordway, Parsons
Perley, R. M.
Perkins, Charles
Plummer, Moses A.
Plummer, Wm. C.
Smith, David
Smith, Joseph B.
Smith, Robert A.
Stanley, B. F.
Stanley, J. C.
Thurlow, William
Titcomb, Albert
Tilton, Enoch
Titcomb, Paul
Toppan, Edward S.
Winkley, J. Otis
Winkley, Paul T.
Winkley, Paul T. Jr.
Young, Hiram

NORTH ANDOVER—55.

Adams, Edward
Berry, Albert
Blake, J. P.
Bodwell, S. B.
Butterfield, Chas. A.
Bassett, Leon H.
Barker, John
Carlton, Daniel
Carlton, Daniel A.
Crosby, Josiah
Chever, William J.
Davis, George G.
Davis, George E.
Davis, George L.
Dale, William J.
Dale, William J., Jr.
Farnham, B. H.
Farnham, Byron K.
Farnham, Mrs. B. H.
Farnham, Jacob
Farnham, J. L.
Farnham, J. Ralph
Farnham, W. Benj.
Foster, J. Frank
Foster, John P.
Foster, Orrin
French, J. D. W.
Fuller, Abijah P.
Goodhue, Hiram P.
Greene, E. W.
Goodwin, John O.
Holt, Peter, Jr.
Jenkins, Benj. F.
Jenkins, Milon S.
Johnson, James T.
Johnson, Charles F.
Kittredge, Hannah E.
Loring, Geo. B., Jr.
Manion, John
Montgomery, Jas. A.
Osgood, Isaac F.
Peters, Nathaniel
Phillips, Willard P.
Poor, James C.
Rea, Loring P.
Reynolds, James H.
Riley, Henry
Robinson, Addison M
Stevens, Moses T.
Stevens, Oliver
Sutton, Eben
Symonds, Frederick
Wilson, Abiel
Wardwell, T. O.
Wiley, John A.

PEABODY—62.

Appleton, Francis H.
Bancroft, Sidney C.
Barrett, E. P.
Buxton, Henry V.
Brown, Rufus H.
Brown, Lewis
Bushby, N. A.
Brown, W. H.
Blaney, Stephen
Buxton, Robert G.
Carroll, Thomas
Clark, A. B.
Colcord, J. L.
Cummings, Daniel
Curtis, Andrew
Dole, William T.
Durkee, T. C.
Emerton, C. S.
Foster, Ira
Foster, George M.
Gardner, Henry
Goodale, Jacob O.
Goodale, J. P.
Hills, Benjamin M.
Herrick, John E.
Hubbard, A. J.
Hutchinson, Samuel
Hutchinson, C. H.
Jacobs, Edward W.
King, J. Augustus
King, James P.
King, Jonathan
Linehan, John
Little, William H.
Marsh, Fred.
Mansfield, E.
Mansfield, Arthur W.
Marsh, Frank
Marsh, James

Needham, George A.
Needham, Joseph S.
Newhall Orlando F.
Nourse, Samuel W.
Osborne, Abraham C.
Osborn, Lyman
O'Keefe, Timothy
Pepper, George W.
Preston, Levi
Richardson, W. B.
Rogers, Jacob C.
Saltonstall, Henry
Southwick, Sumner
Swett, Samuel
Taylor, George W.
Thomas, Josiah B.
Twiss, Everett M.
Viles, Bowman
Walcott, John G.
Wallace, David B.
Walton, George D.
Ward, Winsor M.
Wheeler, Benj. S.

ROCKPORT—19.

Blatchford, Eben
Estes, Alden C.
Hodgkins, John B.
Lane, Andrew
Lane, Andrew, Jr.
Lane, Horace
Low, Mrs. Martha J.
Low, William
Mills, R. P.
Manning, James
Manning, John J.
Manning, William N.
Marshall, John W.
Norwood, Gorham
Patch, William H.
Smith, Allen
Smith, Beaman C.
Smith, William H.
York, Nathaniel S.

ROWLEY—22.

Bartlett, B. W.
Blodgette, George B.
Daniels, George E.
Dole, Charles
Dodge, Joseph D.
Dummer, Nath'l M.
Hale, Clara A.
Hale, Daniel H.
Hale, Thomas
Hale, T. P.
Haggarty, D. L.
Lambert, Mary G.
Mighill, Charles P.
Pike, John
Prime, Daniel B.
Potter, Edward H.
Stockbridge, Seth
Stockbridge, A. J.
Tenney, Harrison J.
Todd, Frank P.
Todd, John F.
Todd, J. Scott

SALEM—71.

Andrews, Randall
Andrews, Samuel P.
Almy, James F.
Abbott, Nathaniel
Barton, Gardner
Curwen, James B.
Chamberlain, James
Curwen, Samuel H.
Clark, Charles S.
Collins, William F. M.
Daland, John
Endicott, William C.
Endicott, William P.
Felt, John
Foote, Caleb
Foster, Joseph C.
Foster, William H.
Foster, William J.
Goodhue, William P.
Gray, Benjamin A.
Gibney, John
Gardner, D. B.
Hathaway, John
Hanson, Clement R.
Hale, Henry
Hale, Henry A.
Horton, N. A.
Ives, John S.
Jones, Samuel G.
Kinsman, John
Kemble, Arthur
Lamson, Frederick
Loring, George B.
Lander, William A.
Lyford, Francis W.
Mack, William

Manning, Robert
Merritt, David
Morse, E. Henry
Newcomb, Caleb
Northend, Wm. D.
Peabody, John P.
Perkins, E. R.
Putnam, Henry W.
Phippen, George D.
Potter, Daniel
Potter, William
Pingree, David
Pettingell, George
Pickering, Wm. Jr.
Page, John G.
Page, James E.
Pickering, Benjamin
Robinson, John
Ropes, Charles A.
Rogers, A. D.
Reynolds, Henry E.
Rowell, E. F.
Ropes, John C.
Saunders, Robert J.
Smith, Andrew
Shreve, O. B.
Spencer, Charles P.
Swasey, John A.
Stowe, Volney C.
Streeter, Gilbert L.
Tracey, Patrick
Ware, Horace C.
Wheatland, Henry
White, Frank W.
Waters, David P.

SALISBURY—15.

Bartlett, Moses J.
Dole, Edward G.
Dow, George A.
Eaton, John H.
Evans, John Q.
Getchell, N. Tracy
Greeley, Furmer H.
Morrill, Abram L.
Pettengill, Wesley
Pettengill, John Q. A.
Smith, John F.
Thornton, Robert
True, P. Albert
True, Eben
Greenleaf, Wm. H.

SAUGUS—13.

Blodgett, J. W.
Faxon, M. B.
George, Henry M.
Houghton, T. O. W.
Hawkes, Samuel
Hawkes, Louis P.
Hill, Alfred C.
Newhall, Herbert B.
Newhall, Joseph
Noble, William
Penney, George H.
Robinson, E. P.
Whitehead, Joseph

SWAMPSCOTT—9.

Crosman, S. F.
Holden, Philander
Pettingell, L. D.
Pettingell, S. J.
Rowe, Allen
Stetson, Charles A.
Washburne, John
Warren, David
Warren, Mrs. N. J.

TOPSFIELD—20.

Batchelder, T. W.
Billings, Augustus T.
Bradstreet, Dudley
Averill, George F.
Herrick, Charles
Hood, S. D.
Lamson, J. Arthur
Leach, Charles H.
Leach, Thomas K.
Manning, James
Peabody, Charles J.
Pike, Baxter P.
Poole, Benjamin
Stanwood, Joseph E.
Towne, Frank H.
Ward, Richard
Wildes, Moses
Wildes, Eugene L.
Wilson, James
Woodbury, Isaac M.

WENHAM—18.

Alley, Henry	Edwards, Francis R.	Parsons, George W.
Cole, Zacariah	Hobbs, A. F.	Patch, Henry
Demsey, H. H.	Hobbs, Henry	Perkins, Nathan'l P.
Dodge, Robert F.	Kavanagh, J.	Putnam, Charles O.
Dodge, George F.	Pingree, David	Tilton, George H.
Dodge, William P.	Peabody, George	Whitman, F. A.

WEST NEWBURY—45.

Bailey, William P.	Gowen, Oscar	Ordward, Cyrus D.
Bradley, C. S.	Jacques, Romulus	Ordway, Cyrus K.
Boynton, Eben M.	Jacques, Stephen A.	Ordway, Thomas G.
Brown, Hayden	King, T. J.	Ordway, Charles W.
Bartlett, M. Walsh	Lane, Isaac N.	Poore, Moses H.
Bailey, Lawrence H.	Merrill, William	Poore, Amos
Bryant, William	Merrill, William E.	Poore, Ben : Perley
Carr, E. Dole	Merrill, M. B.	Poore, George H.
Carr, Samuel	Merrill, Henry	Ridgway, Moses M.
Follansbee, B. A.	Moore, Alfred L.	Ridgway, M. M. Jr.
Flook, George L.	Nason, Ezekiel G.	Rogers, Calvin
Goodridge, David L.	Nason, Henry F.	Rogers, George C.
Goodridge, H. M.	Nelson, Daniel P.	Stanwood, Moses P.
Gordon, J. R.	Newell, Richard	Thurlow, Thomas C.
Gowen, Francis H.	Noyes, Stephen E.	Titcomb, Silas M.

NON-RESIDENTS—116.

Alley, James E.	Clarke, Joseph F., Boston
Burnham, Ira T., Lexington	Currier, William A., Boston
Babson, Gustavus, Jr., Seward, Neb.	Chapin, W. C., Providence, R.I.
	Cleaveland, H. W. S., Chicago
Barker, John G., Boston	Colby, Charles A., New York
Beckford, C. H., Boston	Chase, Joseph S., Malden
Balch, William H., Malden	Carey, James, Quincy
Balch, Eustis, California.	Caldwell, L., Jacksonville, Fla.
Bodwell, Henry A., Keene, N.H.	Campbell, Charles H., New Rochelle, N. Y.
Black, James D., Harvard	
Blunt, J. Milton, Springfield	Carey, James, New York.
Bodwell, Jos. R., Hallowell, Me.	Day, Abraham, Boston
Brackett, H. Clarke, Virginia.	Davis, Phineas E., Chicago
Brocklebank, S., Rumney, N.H.	Dole, Francis F., Chicopee
Burnham, Choate, Boston	Dodge, Albert W., Brighton
Butler, Benjamin F., Lowell	Dodge, John S., Chicopee

Drew, Charles R., Medford
Eaton, Thos., Harristown, Ill.
Emanuel, Henry, New York
Farrell, Edwin C., Reading
Felton, Wm. H., Sherborn
Flint, Charles L., Boston
Fowler, W. W., Plymouth
Fernald, Henry B., Washington
Foster, James B., Melrose
Flagg, Wilson, Cambridge
Flint, Horace P., Boston
French, Charles, Davenport, O.
French, Geo. H., Davenport, O.
Gannett, W. W., Boston
Gilman, S. E., Kingston, N.H.
Gookin, Samuel F., Boston
Green, John A., New York
Greene, Arthur M., Philadelphia
Hadley, William, Boston
Hale, Joseph S., Stockton, Cal.
Hayes, J. F. C., Iowa
Hill, Mark F., Derry, N. H.
Hubbard, J.G., Hampste'd, N.H.
Holt, H. E., Lexington
Hutchinson, C. H., Rhinebeck, N. Y.
Hubbard, Leavitt, Turner's Falls
Hicock, S. S., Rochester, N. H.
Kent, Albert S., Colorado
Kimball, Jonathan, Boston
Kimball, W. F., Providence, R.I.
King, D. Webster, Boston
Knight, J. M., Maine
Lamb, Wm. D., Southbridge
Lyford, Geo. H., New York
Lake, Chas. H., Churchill, Md.
Low, Sidney, Groton
McFarland, L., Maine
Mitchell, Charles, Milton
Merrill, Hayden A., Dedham
Moulton, Beverly S., Boston
Nichols, Albert, Chicago, Ill.
Nichols, D. P., Boston
Noyes, A. P., Lowell
Ordway, G. W., Manch'r, N. H.
Putnam, Benjamin C., Chelsea
Putnam, Moses W., Philadelphia
Pierce, William, Boston
Page, Adino, Metamora, Ill.
Page, Nathan, Jr., Wakefield
Poor, Henry, New York
Porter, Dudley H., Saratoga, N. Y.
Payson, Samuel F., New York
Patch, A. H., Clarkville, Tenn.
Putnam, Wm. R., Red Wing, Minn.
Phelps, N. L., Iowa
Phillips, Samuel, Brighton
Phillips, A. P., Medfield
Quimby, T. W., Washington, Mo.
Raymond, Samuel, New York
Reynolds, W. B., Derry, N. H.
Robinson, John L., Manchester, N. H.
Rogers, Benjamin, Malden
Rogers, William, Illinois
Stone, Edwin M. Provid'ce, R.I.
Snow, Jesse W., Boston
Sargent, Elmer P., Malden
Sargent, G.P., Philadelphia, Pa.
Stickney, Niles T., Chicago, Ill.
Stanley, Samuel S., Boston
Safford, N.T., Dunbarton, N. H.
Smith, George J., Boston
Stickney, Chas., Fon du Lac, Wis.
Sleeper, S. C., Plaistow, N. H.
Shattuck, L. P., Boston
Spofford, Farnham, Washington
Titcomb, Charles A., Boston
Taylor, George H., Everett
Tappan, S. B., Arlington
Wentzel, David, Amherst
Whittemore, Chas. A., Boston
Ware, Darwin E., Boston
Whittemore, J. R., Chicopee
Wheeler, H. T., Worcester
Webb, Michael, Jr., Cambridge
Walker, Dexter M., Boston
Wilder, S. W., Lowell

Total number, December, 1886—1405 members.

1887

PREMIUM LIST OF

Essex Agricultural Society

FOR THE

Sixty-Seventh Annual Cattle Show and Fair,

To be held September 27th and 28th, 1887, probably in Peabody.

DUTIES OF TRUSTEES.

The Trustee of each town is instructed to see the several members of Committees in his town previous to the Show, and urge upon them the importance of attending to their duties. Also impress upon exhibitors from localities near to the Exhibition the importance of entering their exhibits the afternoon and evening of Monday, in fairness to those from a distance, who are obliged to come Tuesday.

To be prompt at the meeting of the Society for filling vacancies in committees on the first day of the Exhibition.

Committees on live stock and articles exhibited on the Fair Grounds should appear at the Secretary's office on the grounds at 1 o'clock, punctually, on the first day of the Exhibition, and there organize, take the books of entry and proceed at once to business.

DUTIES OF COMMITTEES.

Full reports of Committees, on the blanks furnished by the Secretary, to be signed by all the members acting on the same, are required of each committee.

Three members of any committee consisting of more than that number are authorized to act.

No committee is authorized to award gratuities, except the committees on agricultural implements, carriages, bread, honey and canned fruits, domestic manufactures, fruits, vegetables in

Hall, and flowers; or any premium, unless the rules of the Society have been strictly complied with. Neither shall they award premiums or gratuities in excess of the amount appropriated.

No gratuity is to be awarded of less than fifty cents.

The several committees are requested to affix premium cards (which may be had of the Secretary or assistant on the grounds and at the hall) to the several animals or articles, designating the grade of premium awarded each, and the name of the person to whom awarded, and special care should be taken that the cards issued correspond with the awards in their report to the Society.

No claimant for a premium can be a member of the committee upon the subject on which he makes his claim.

The reports of award of premiums on ploughing and on animals and articles exhibited at the Show, will be delivered to the Secretary and announced on Wednesday.

The Society offers liberal premiums for the best reports of committees; and the chairmen of the several committees are requested to present to the Secretary a full report explanatory of the opinions of the committee on the matter referred to them, within two weeks after the awards are made at the Show, for publication in the Transactions.*

Reports on farms, crops, etc., to be presented previous to the meeting of the Trustees in November.

Any member of a committee who cannot serve on the same, *is requested to give notice* to the Secretary, *before the Show*, so that the vacancy may be filled.

Each member of the several committees will receive a ticket of admission to the hall of exhibition, on application to the Secretary.

*Chairmen of committees will please notice this request.

GENERAL RULES.

All claims (entries) for premiums to be awarded at the Exhibition must be entered with the Secretary of the Society, or his agent, on or before 11 o'clock, A. M., of the first day thereof.

All claims (entries) for premiums (on Fair Grounds) must be handed or forwarded to the Secretary or his agent, in writing, previous to the day of the Fair, if possible.

Any person not a member of the Society, receiving an award of seven dollars and upwards, shall receive a certificate of membership, for which three dollars of his award will be retained to increase the funds of the Society.

Diplomas awarded will be delivered and premiums paid on application, either by the person to whom the premium or gratuity is awarded, or an agent duly authorized, by the Treasurer, at First National Bank, Salem.

In all cases the reports of award of premiums and gratuities made by the several committees and adopted by the Society shall be final. Committees should see that the premium cards issued correspond with the premiums and gratuities awarded in their report.

All premiums and gratuities awarded, the payment of which is not demanded of the Treasurer on or before the first day of September next succeeding the Exhibition, will be considered as given to increase the funds of the Society.

No person shall be entitled to receive a premium, unless he complies with the conditions on which the premiums are offered, and by proper entry as required, gives notice of his intention to compete for the same; and committees are instructed to award no premium unless the animal or article offered is worthy.

No animal or object that is entered in one class, with one committee, shall be entered in another class, except town teams, fat cattle, working oxen and draft horses, which may be entered for ploughing, and milch cows, which may be entered with a herd.

In regard to all the subjects for which premiums are offered, it is to be distinctly understood that the Trustees reserve to themselves the right of judging the quality of the animal or article offered; and that no premiums will be awarded unless the objects of them are of a decidedly superior quality.

Pure Bred Animals, defined by the State Board of Agriculture.

The *proof* that an animal is so bred should be a record of the animal or its ancestors, as recorded in some herd book, recognized by leading breeders, and the public generally as complete and authentic.

Standards adopted:—American Jersey C. C. Register and American Jersey Herd Book, Ayrshire Record and Holstein Herd Book.

PREMIUMS TO BE AWARDED AT THE SHOW.

The Committees will take notice that no premium will be awarded unless the animals or objects are of a decidedly superior quality.

DIPLOMAS may be awarded for ANIMALS or ARTICLES of *special* merit.

CATTLE AND OTHER FARM STOCK.

TO BE ENTERED IN THE NAME OF THEIR PROPER OWNER.

All animals, to be eligible to a premium, shall have been raised by the owner within the County, or owned by the exhibitor within the County for four months previous to the date of the Exhibition, except Working Oxen.

All animals, whether teams for ploughing or animals entered for premium or exhibition, will be fed during the Exhibition, and longer when they are of necessity prevented from leaving, at the expense of the Society.

FAT CATTLE.

Fat Cattle, fatted within the County, regard being had to manner of feeding and the expense thereof, all of which shall be stated by the exhibitor in writing and returned to the Secretary with committee's report.

Best Pair of Fat Cattle, premiums, each,	$10, $8, $4
Best Fat Cow, premiums, each,	$8, $6, $4

THOROUGHBRED BULLS.

*Ayrshire, Jersey, Short Horn, Devon, or of any other recognized thoroughbred breed, for each breed,

Two years old and upwards, premiums,	$10, $5
Under two years, premiums, for each breed,	$5, $3
Bull Calves under one year old, premium,	$2

BULLS OF ANY AGE OR BREED.

*For the best thoroughbred Bull of any age or breed, with five of his stock not less than one year old, quality and condition to be taken into account, and especially the adaptability of the animal to the agriculture of the County, premium, $12

*NOTE.—Competitors are required to give a written statement of pedigree, and committees are requested to be particular in this respect, and return them to the Secretary with report.

MILCH COWS.

For the best Milch Cow of any age or breed, with satisfactory record in quarts or pounds of her daily yield of milk for one or more years, premium, $15

For best Milch Cow, either of Foreign, Native or Grade, not less than four nor more than ten years old, with satisfactory

evidence as to quantity and quality of milk, either by weight or measure, during the evening and morning of the first and last ten days of any month, premiums, $10, $4

Thoroughbred Ayrshire, Jersey, Devon, Short Horn, or any other recognized breed, four years old and upwards, premiums, for each breed, $10, $4

Native or Grade, five years old and upwards, premiums, $10, $4

For the Cow that makes the most butter in any single week from June 1st to September 15th, premiums, $10, $4

NOTE.—A written statement will be required of the age and breed of all Milch Cows entered, and time they dropped their last calf, and when they will next calve, the kind, quality and quantity of their food during the season, and the manner of their feeding, which statement is to be returned to the Secretary with Committee's report.

HERD OF MILCH COWS.

For the best herd of Milch Cows, not less than five in number, to be exhibited at the Show, and a correct statement of manner of keeping and yield from January 1st, preceding the Show, premiums, $18, $12

For the greatest produce of Milk on any farm, in proportion to the number of cows producing it, not less than four, from April 1, 1886, to April 1, 1887, statement to be made of the exchanges made, manner and expense of food, use made of milk, and such other facts as will illustrate the entire management, special regard being had to the mode in which the account is kept, premium, Diploma, and $15

NOTE.—The above-mentioned statement is to be returned to the Secretary with Committee's report.

HEIFERS.

FIRST CLASS.—Thoroughbred Ayrshire, Jersey or Short Horn under four years old, in milk, premiums, for each breed, $10, $4

Devon. or any other recognized breed, premium, for each breed, $10

Two year olds of each breed that have never calved, premiums, $4, $3

One year olds of each breed, premiums, $4, $3

Heifer Calves, thoroughbred, under one year, premiums, for each breed, $4, $3

SECOND CLASS.—Native or Grade Milch, under four years old, premiums, $10, $4

Two year olds, that have never calved, premiums, $4, $3

One year olds and less than two, premiums, $4, $3

Heifer Calves, Native or Grade, under one year old, premiums, $4, $3

WORKING OXEN AND STEERS.

Stags excluded. For best pair of Working Oxen under eight and not less than five years old, taking into view their size, power, quality and training, premiums, $12, $10, $8

For best pair Working Steers four years old, to be entered in the name of the owner, premiums, $10, $6

NOTE.—The Committee are required to consider the quality and shape of the cattle as well as their working capacity. The training of working oxen and steers will be tested by trial on a cart or wagon containing a load weighing two tons for oxen, and 3000 pounds for steers. ☞ At the time of entry a certificate of the weight of the cattle must be filed with the Secretary.

TOWN TEAMS.

For best Town Team of Oxen, ten yoke or more, premiums, $20, $12

For best Town Team of Oxen, eight or nine yoke, premiums, $15, $8

For best Town Team of Horses, ten or more pairs, premiums, $20, $12

For best Town Team of Horses, eight or nine pairs, premiums, $15, $8

STEERS.

For best pair three year old steers, broken to the yoke, premiums, $8, $6

For best pair two year old Steers, premiums, $6, $5

For best pair yearling Steers, premiums, $5, $4

For best pair of Steer calves, premiums, $4, $2

STALLIONS.

All Stallions entered in either class must have been owned by the exhibitor four months previous to the exhibition.

FIRST CLASS. For best Stallion for Farm and Draft Horses, four years old and upwards, diploma or premiums, $10, $6, $4

For best Stallion, three years old, premiums, $8, $5

For best Stallion of any age, and five colts of his stock not less than one year old, quality and condition to be taken into account, premium, $15

SECOND CLASS—For best Stallion for Driving Horses, four years old and upwards, premiums, Diploma, $10, $6, $4

Best Stallion of any age and five colts of his stock, not less that one year old, quality and condition to be taken into account, premiums, $15

BROOD MARES.

For best Brood Mare, with her foal not more than eight months old by her side, premiums, $10, $6, $4

NOTE.—No brood mare or stallion will be entitled to a premium unless free from all apparent defects capable of being transmitted.

FAMILY HORSES.

For best family Horse, premiums, $10, $6, $4

NOTE.—No horse will receive a premium unless free from all unsoundness.

GENTLEMEN'S DRIVING HORSES.

For Best Driving Horse, premiums, $10, $6, $4

FARM HORSES.

For best Farm Horse, premium, $10, $6, $4

NOTE.—No horse will be allowed except those actually used on farms, and in no case will competitors be allowed to take more than a specified load, 2000 lbs. No obstruction shall be placed either before or behind the wheels in trials of Draft horses of either class. If this rule is not complied with the premium shall be withheld.

PAIRS OF FARM HORSES.

For best pair of Farm Horses with load of two tons, premiums, $12, $8, $4

COLTS FOR DRAFT PURPOSES.

FIRST CLASS. For best Mare or Gelding four year old colt, premiums, $10, $6, $4

For best Mare or Gelding, three year old colt, premiums, $8, $5

SECOND CLASS. For best two year old Stallion, Gelding or Mare Colt, premiums, $10, $6, $4

For best yearling Stallion, Gelding or Mare Colts, premiums, $6, $4

COLTS FOR GENERAL PURPOSES.

FIRST CLASS. For best Mare or Gelding four year old Colt, premiums, $10, $6, $4

For best Mare or Gelding three year old Colt, premiums, $8, $5

SECOND CLASS. For best two year old Stallion, Gelding or Mare Colt, premiums, $6, $4

For best yearling Stallion, Gelding or Mare Colt, premiums, $6, $4

SWINE.

First Class. Large breeds, viz: Cheshire, Berkshire, Chester County Whites, Poland China, Large Yorkshire, and any other breed or grade weighing more than 300 lbs. at maturity.

For best Boar, premiums, $8, $5
For best Breeding Sow, premiums, $8, $5
For best Litter of Weaned Pigs, premiums, $8, $5

Note.—Litters of Weaned Pigs must be not *less* than four in number, between two and four months old.

Second Class. Small breeds, such as Suffolk, Essex, Small Yorkshire, China, and any other breed or grade weighing less than 300 lbs. at maturity, same premiums as in First Class.

SHEEP.

For best flock, not less than ten in number, premiums, $10, $6
For best Buck, premium, $8
For best lot of Lambs, not less than four in number, between four and twelve months old, premium, $4

POULTRY.

For the best pair of Light Brahmas, Dark Brahmas, Buff Cochins, Partridge Cochins, Black Cochins, White Cochins, Plymouth Rocks, Dominiques, White Leghorns, Brown Leghorns, Dominique Leghorns, Black Spanish, Hamburgs, Polish, Games, Dorking, Bantams, Black, White and Mottled Javas, Wyandottes, White Wyandottes, Andalusian, Erminet, Langshangs and Frizzle, each, premiums, $2, $1
Chickens of above varieties, premiums, $2, $1
For the best breeding pen of each variety—Diploma of the Society.
Premiums shall be awarded on a score of not less than 176 points for first premium and 166 points for second premium.
Best lot of Geese, Ducks, Turkeys, premiums, $2, $1
For the best coop of 10 or more Fowls exhibited, whether thoroughbreds crossed or mixed, with an account for one year, showing cost of keeping, production and profit, premium, $5
For the best pair of *dressed* Fowls, Chickens and Ducks, premium, $2
For the best dozen of Eggs, no more and no less than twelve in number exhibited, premium, $1
Any exhibitor interfering with the Judges in the discharge of

their duties or interfering with, or handling any specimen on exhibition, other than his own, shall forfeit all claim he may have in the premium list.

All breeds exhibited separately and to be judged by the rules of the "American Standard of Excellence."

PLOUGHING.

GENERAL NOTE ON PLOUGHING. Stags are excluded. Teams must be entered in the names of their owners, and only double ox-teams to have drivers. A team consisting of one pair of oxen and a horse will be considered a double team. The owners of separate teams may unite the same and be allowed to compete for premiums. The ploughmen and drivers must have been residents of the County at least three months before the exhibition. Those who intend to be competitors must give notice to the Secretary on or before Saturday previous to the Show. The lands will be staked, but each ploughman will be required to strike out his own land. Ploughmen with land-side ploughs are to back furrow three furrows on each side of the stakes set, the last furrow to be of the depth required in the class. Ploughmen with swivel ploughs to turn the outside of their furrows to the stakes on one side, and to finish one foot from the stake on the other. Committees to note and report the kind of plough used.

PLOUGHING—DOUBLE TEAMS.—For the best performance of Ploughing, one-sixth of an acre, at least eight inches deep, premiums, $12, $10, $9, $8

PLOUGHING—SINGLE TEAMS.—For the best performance in Ploughing, one-sixth of an acre, at least six inches deep, premiums, $10, $9, $5

PLOUGHING—WITH HORSES.—For the best performance with any form of Plough, except Swivel, one-sixth of an acre, at least six inches deep, premiums, $10, $7, $5

PLOUGHING WITH THREE OR FOUR HORSES.—Eight inches deep with three horses without driver, premium, $10

With four horses with driver, premium, $10

PLOUGHING—SWIVEL PLOUGH.—For the best performance, one-sixth of an acre, either with double or single ox-team, double teams, at least eight inches deep, single teams six inches, premiums, $12, $10, $8

Horse teams, consisting of two horses, ploughing at least six inches deep, premiums, $10, $6

PLOUGHING—SULKY PLOUGH.—For the best performance, taking into account ease of draft, amount and quality of work, premiums, $10, $8

AGRICULTURAL IMPLEMENTS.

For the best collection of Implements and Machines, (no article offered in *collection* will be entitled to a separate premium) Diploma and $10

Best Market Wagon, premium, $5

Best Farm Wagon for one or two horses, premium, $3
Best Horse Cart, premium, $5
Best Hay, Straw, or Corn Cutter, premium, $1.50
Best Ox Yoke, complete, premium, $1.50
Best Fruit Evaporator, with sample of work, premium, $5
Best set of Horse Shoes, including those for over-reaching, interfering, and stumbling horses, premium, $5
For implements not specified, to be awarded by the Committee, preminm, $40

No premium or gratuity will be awarded for any Mower, Horse Rake, Tedder, or other Machine or Implement, the merit of which can be known only by actual trial in the field; but manufacturers are invited to offer the same for exhibition and inspection.

CARRIAGES.

For Carriages, built in the County, and exhibited by the manufacturer, a diploma, and thirty dollars in gratuties, may be awarded by the Committee.

IN EXHIBITION HALL.

Committees on articles exhibited in the hall should be specially careful that the premium cards issued correspond with the names and sums in the reports to the Society.

DAIRY.

For best specimens of Butter made on any farm within the County, the present year, samples not less than five pounds to be exhibited, with a full account of the process of making and management of the Butter, premiums, $10, $8, $6

For best specimens of New Milk Cheese, made on any farm in the County, the present year, samples of not less than fifty pounds to be exhibited, with statement in writing of the method of making and preserving the same, premiums $8, $6, $4

NOTE.—Each lot presented for premium and the statement accompanying it, must be numbered, but not marked so as to indicate the claimant; any public or known mark must be completely concealed; nor must the competitors be present at the examination.

To the person who shall furnish to the Society satisfactory evidence of the greatest amount of Butter made from any quantity of milk, being the whole produce of any single cow, for the first week of June, July, August and September next, stating

the whole amount of Butter produced in each week, and also the time when the cow dropped her last calf, and her feed and management all to be taken into account in making the award, premiums, Diploma and $10, $5

NOTE.—The object in offering this last premium is to elicit inquiry as to the value and quality of milk for the production of butter. As far as practicable it is desirable that the race and pedigree of the cow should be given.

BREAD, HONEY AND CANNED FRUIT.

For White Bread made of wheat flour and raised by yeast, premiums, $3, $2, $1

For yeast bread made from Graham flour, premiums, $2, $1

For yeast bread made from other grains, or other grains mixed with wheat, premiums, $1.50, $1

All bread, entered for premiums, to be in loaves weighing not less than one pound each, and to be not less than 24 hours old, also to have a full written statement over the signature and address of the maker, stating the kind of flour used, quantity of each ingredient, how mixed and length of time kneaded and raised, *which statements on all premium bread are to be sent to the Secretary with report of the Committee for publication.*

For first and second best display of Bees, Hives and Aparian Implements, to be accompanied with a description of the bees, hives, etc., number of hives in use and amount of surplus honey taken from them during the season, premiums, $5, $3

First and second best Honey, ten pounds in comb and one pound of same extracted, made in the County, with statement signed of kind of bees and hive and time of year when honey was made, premiums, $3, $2

For first and second best collection of Pickles, Preserved Fruits, and Jellies, made from products of the County, *when premiums are awarded, the method of making to be sent to the Secretary by the Committee for publication.* Premiums, $3, $2

For the first and second best five pounds of Dried Apples, grown and dried within the County, with statement of process used and amount of labor and time required in preparing and drying, *such statement on premium fruit to be given to the Secretary for publication*, premiums $3, $2

In addition to the above, are placed in the hands of the Committee for gratuities on other articles entered in this department, products of this County deemed worthy, $5

FRUIT.

All fruit must be entered in the name of the *producer*, and each exhibitor must certify to the same on the Entry Book, or

lists of the varieties of each class of fruit, to be filed when entry is made. (Committees are not authorized to make awards to those who do not comply with this rule.)

Tables will be labeled in a *conspicuous manner* by the hall committee, *before the entry of Exhibitors*, with the names of fruit, for which premiums are offered, all others of same class of fruit to be labelled miscellaneous. Exhibitors must place their several varieties of each class of fruit where indicated by such labels, or be considered by the committee as not competing for premium.

Plates of 24 specimens of fruit, when premiums are offered therefor, must be entered and placed by the exhibitor on the table assigned for the exhibit of that class of fruit.

To entitle exhibitors to receive premiums and gratuities awarded, they are required (when requested by the committee) to give information in regard to the culture of their fruit.

PEARS.

For best twelve specimens of the following varieties, which are recommended for cultivation in Essex County: Bartlett, Belle Lucrative, Beurre Bose, Beurre d' Anjou, Duchess d' Angouleme, Dana's Hovey, Lawrence, Louise Bonne de Jersey, Maria Louisa, Onondaga, Paradise d' Automne, Seckel, Sheldon, Unbaniste, Vicar of Winkfield, Beurre Langlier, Howell, Beurre Hardy and Beurre Clairgeau, each, $3

Doyenne d' Ete, Beurre Gifford and Clapp's Favorite (ripening early) are recommended for cultivation, but no premium is offered.

For each dish of twelve best specimens of any other varieties deemed worthy by the committee, $1.50

For best dish of Pears, not less than twenty-four specimens, premium, $6

In addition to the above, are placed at the disposal of the committee, to be awarded in gratuities of not less than $1 each, $20

APPLES.

For best twelve specimens of the following varieties, which are recommended for cultivation in Essex County: Baldwin, Danvers Winter Sweet, King of Tomkins Co., Granite Beauty, Red Russet, McCarty, Tolman's Sweet, Bailey's Sweet, Drap d' Or, Hubbardston Nonesuch, Hurlburt, Porter, Pickman's Pippin, Roxbury Russet, Rhode Island Greening, Sweet Baldwin, Gravenstein, Hunt's Russet, Smith's Cider, premium for each, $3

Red Astrachan, William's Favorite, Tetofsky and Sweet Bough are recommended for cultivation, but no premium is offered, (ripening early.)

For best twelve specimens of any other varieties deemed worthy by the committee, premium for each, $1.50

For best twenty-four specimens of any variety, Apples, $6

For best twenty-four specimens of any variety of Crab Apple deemed worthy by the committee, $1.50

In addition to the above, are placed at the disposal of the committee, to be awarded in gratuities of not less than $1 each, $20

PEACHES, GRAPES AND ASSORTED FRUITS.

For best nine specimens of Freestone White Flesh, Yellow Flesh, Essex County Seedling, each, $2

For best collection of Peaches, premium, $3

For best four bunches of Concord, Worden's Seedling, Brighton, Hartford Prolific, Delaware, Martha, Moore's Early, Niagara, each, $3

For best exhibition of Cold House Grapes, produced with not over one month's artificial heat, premiums, $6, $4

For best collection of ten varieties, not less than ten pounds, premium, $7

For best specimens of four bunches of other varieties deemed worthy by the committee, premium, $1.50

For best basket of Assorted Fruit, premiums, $4, $3

In addition to the above, are placed at the disposal of the committee, to be awarded in gratuities of not less than 50 cents each, $25

FLOWERS.

For best display of Foliage Plants in pots, at least ten specimens, premiums, $3, $2

For best pair of Parlor Bouquets of choice flowers, premium, $3

For best pair of Hand Bouquets of choice flowers, premium, $2

For best display of Cut Flowers, premiums, $3, $2

For best four Ferns in pots, premium, $1

For best four Gloxinias, in pots, premium, $1

For best four Coleus in pots, premium, $1

For best specimen of any species of Begonia in pot, premium, $1

For best grown Pot Plant of any species, not from a greenhouse, premium, $1

For best Bouquet of Garden Flowers, premium, $1
For best arranged Basket of Garden Flowers, premium, $1
For best twelve garden Dahlias, six varieties, premium, $1
For best twelve Bouquet Dahlias, six varieties, premium, $1
For best twelve Single Dahlias raised from seed by exhibitor, premium, $1
For best twenty-four Asters, six varieties, premium, $1
For best twelve Carnation Pinks, four varieties, premium, $1
For best twelve spikes of Gladiolus, four varieties, premium, $1
For best twenty-four Petunias, six varieties, premium, $1
For best twenty-four Verbenas, six varieties, premium, $1
For best twenty-four Double Zinnias, four varieties, premium, $1
For best twenty-four French and African Marigolds, six varieties, premium, $1
For best twelve Calendulas or Pot Marigolds, two varieties, premium, $1
For best twelve Japan Lilies, two varieties, premium, $1
For best twelve trusses of Geraniums, four varieties, premium, $1
For best twelve trusses of Garden Phlox, four varieties, premium, $1
For best collection of Drummond's Phlox, six varieties, premium, $1
For Mourning Bride, four varieties, premium, $1
For Nasturtiums, four varieties, premium, $1
For Pansies, six varieties, premium, $1
For Everlastings, six varieties, $1
For Garden Annuals, six specimens of at least ten varieties, premium, $1
For Roses, three varieties, premium, $1
For best Floral Design of choice flowers, premium, $2
For best collection of Native Plants, to be marked with the correct botanical and common names, and neatly displayed in separate bottles, premiums, $5, $3
For best arrangement of Native Flowers and Autumn Leaves, premium, $2
In gratuities to contributors in this department, as the articles may seem to merit, will be awarded, $20

1. Every plant or flower entered for premium (except native flowers) must be grown by the exhibitor.

2. No premium shall be awarded unless the specimens exhibited are of average excellence and worthy of such premium.

3. No specimen entered for one premium shall be admitted in competition for another different premium.

VEGETABLES.

Beets—For best twelve specimens, Eclipse and Dewing, premium, each, $3

Carrots—For best twelve, short top long Orange and Danvers Intermediate, premium, each, $3

For best twelve, Short Horn Orange Carrots, premium, $2

Mangold Wurtzels—For best six specimens, premium, $3

Flat Turnips—Twelve specimens. For best Purple Top and White Flat, premium, each, $3

Ruta Bagas—Twelve specimens. For best Yellow and White, premium, each, $3

Parsnips—For best twelve specimens, premium, $3

Onions—One peck. For best Danvers, Yellow Flat and Red, premium, each, $1

Potatoes—One peck. For best Early Rose, Beauty of Hebron, Clark's No. 1, Pearl of Savoy, Early Maine, premium, each, $3

Cabbages—For best three specimens Savoy, Fottler's Drumhead, Stone Mason Drumhead, Red Cabbage, each, premium, $3

For next best, each, premium, $2

Cauliflowers—For best three specimens, premium, $3

For next best, premium, $2

Celery—For best four roots, premium, $2

Sweet Corn—For twelve ears ripest and best Early, premium, $3

For best twelve ears in milk, Late, premium, $3

Squashes—For best three specimens Marrow, American Turban, Hubbard, Marblehead, Essex Hybrid, premium, each, $3

Melons—For best three specimens Nutmeg, Musk, Cassaba, each, premium, $2

For best two specimens Watermelons, premium, $2

Tomatoes—For best twelve specimens Round, Flat, Spherical, Essex Hybrid, or any other variety, each, premium, $3

For exhibition of greatest variety, premium, $3

Cranberries—For peck cultivated, premiums, $3, $2, $1

For best collections of vegetables, premiums, $8, $6

Placed at the disposal of this committee for whatever appears meritorious, $30

☞No competitor for premium to exhibit more or less number of specimens of any vegetables than the premiums are offered for.

Collections of Vegetables, where premiums are offered for a number of varieties, must be entered and placed by themselves on the tables assigned for collections. No collection shall receive but one premium. Specimens of any

variety in such collections are not to compete with specimens of the same variety placed elsewhere. Exhibitors of such collections, however, are not prevented from exhibiting *additional* specimens of any variety, with and in competition with like variety.

Size of Vegetables.—Turnip Beets to be from 3 to 5 inches in diameter; Onions, 2 1-2 to 4 inches in largest diameter: Potatoes to be of good size for family use; Squashes to be pure and well ripened—Turban, Marrow, Hubbard, Marblehead, each to weigh 8 to 12 lbs.

GRAIN AND SEED.

For best peck of Shelled Corn, Wheat, Oats, Barley, Rye and Buckwheat, each, premium, $1

For best 25 ears of Field Corn, premiums, $5, $3, $2

For best 25 ears of Pop Corn, premiums, $3, $2

For best collections of Field and Garden Seed, premiums, $8, $5

All grain or seed must have been grown in the County to receive premium.

DOMESTIC MANUFACTURES.

Contributors must deposit their articles at the Hall before 11 o'clock on the first day of the Exhibition. Articles not thus deposited will not be entitled to a premium. Gratuities will be awarded for articles of special merit, for which no premium is offered; but no premium or gratuity will be awarded for any article manufactured out of the County, or previous to the last Exhibition of the Society.

COUNTERPANES AND AFGHANS.

For best Wrought Counterpanes having regard to the quality and expense of the material, premiums, $4, $2

Gratuities will be awarded for articles belonging to this department, the whole amount of gratuities not to exceed $25

CARPETINGS AND RUGS.

For best Carpets, having regard to the quality and expense of the material, premiums, $4, $2

Best Wrought Hearth Rug, having regard both to the quality of the work and expense of the material, premiums, $3, $2

Gratuities will be awarded for articles belonging to this department, the whole amount not to exceed $25

ARTICLES MANUFACTURED FROM LEATHER.

For best pair hand made and machine made Men's Boots, Women's do., Children's do., each, $2

Best Team, Carriage and Express Harness, each, $5

$10 are placed at the disposal of this committee, to be awarded in gratuities.

For the best exhibition of Boots, and Shoes manufactured in the County, each, Diploma of Society.

MANUFACTURES AND GENERAL MERCHANDISE.

For best display of Bonnets, premiums, $4, $2

Best specimen of Horn Combs, not less than one dozen, premium, $3

At the disposal of the committee in this department, to be awarded in gratuities not exceeding $3 in any one gratuity, $20

FANCY WORK AND WORKS OF ART, and other articles of Domestic Manufacture not included in the above.

At the disposal of the committee in this department, to be awarded in gratuities not exceeding $3 in any one gratuity, $50

WORK BY CHILDREN UNDER TWELVE YEARS OF AGE. For best specimens of work performed by children under 12 years of age, exhibiting industry and ingenuity, premiums, $3, $2

At disposal of committee to be awarded in gratuities, $10

LIST OF PREMIUMS TO BE AWARDED BY THE TRUSTEES IN NOVEMBER.

FARMS.

Competitors for these premiums must give notice of their intention to the Secretary on or before June 15th, and the farms entered for premium will be viewed by the committee twice during the year. Crops growing on farms that are entered for premiums, cannot be entered with another committee for separate premiums—except specimens exhibited at the Fair. Any person desirous of having his farm inspected, without entering it for premium, may make application to the Secretary, and it will be viewed and reported upon by the committee.

Any person entering his farm for premiums, may apply to the Chairman of the Committee on Farms, for the appointment of a sub-committee of not less than five in number, to visit his farm and report upon the same.

For the best conducted and most improved farm, taking into view the entire management and cultivation, including lands,

buildings, fences, orchards, crops, stock, and all other appendages, with statements in detail, relating thereto, premium, $30

IMPROVING WET MEADOW AND SWAMP LANDS.

For best conducted experiments relating to wet meadow or swamp lands, on not less than one acre, the course of management, and the produce, etc., for a period of two years at least, to be detailed, with a statement of all the incidental expenses, premiums, $15, $10

IMPROVING PASTURE AND WASTE LANDS.

For best conducted experiments in renovating and improving pasture land, other than by ploughing, so as to add to their value for pasturage, with a statement of the same, premiums, $15, $10

For best conducted experiments in renovating and improving waste lands, so as to add to their agricultural value, with statement of the same, premiums, $15, $10

No premium to be awarded to any person for a repetition of an experiment in meadow, swamp or pasture lands, for which he has already received a premium.

UNDER-DRAINING LAND.

For best conducted experiments in under-draining land, regard being had to the variety of soil, sub-soil, and other local circumstances, premiums, $15, $10

MANURES.

For most exact and satisfactory experiments, in the preparation and application of manures, whether animal, vegetable or mineral, premiums, $15, $10

COMPARATIVE VALUE OF CROPS AS FOOD FOR CATTLE.

For most satisfactory experiment upon a stock of cattle, not less than four in number, in ascertaining the relative value of different kinds of fodder used in feeding neat stock for milk and other purposes, with a statement in detail of the quantity and value of the same, as compared with English hay, premium, $25

FATTENING CATTLE AND SWINE.

For most satisfactory experiments in fattening Cattle or Swine, with a statement in detail of the process and result, premiums, $10, $5

GRAIN AND OTHER CROPS.

Claimants on Grain and Root Crops will be required to state the size of the piece of land, when they enter, and conform to the following rules: Entries of Grain Crops to be made on or before September 10th; Root Crops on or before October 10th; giving ample time for the crops to be examined by the committee before harvesting. Statement, to be made in conformity with the following form, must be forwarded to the Committee previous to November 1st.

All calculations and figures given in reports of, and statements of Crops are to be made on the *basis of an acre*, results, in all cases, to be given at the rate per acre.

In pursuance of authority delegated to the Board of Agriculture, by Chap. 24 of Acts of 1862, Agricultural Societies receiving the bounty of the State are required to make use of the following form, and be governed by its conditions in the mode of ascertaining the amount of crops entered for premium.

ESSEX AGRICULTURAL SOCIETY.—Statement concerning a crop of———, raised by Mr.——, in the town of———,——, 1887.

What was the crop of 1885? What manure was used and how much? What was the crop of 1886? What manure was used and how much? What is the nature of the soil? When, and how many times ploughed, and how deep? What other preparation for the seed? Cost of ploughing and other preparation? Amount of manure, in loads of thirty bushels, and how applied? Value of manure upon the ground? (What amount of Commercial Fertilizer used? How used? Value of same when applied?) When and how planted? The amount and kind of seed? Cost of seed and planting? How cultivated, and how many times? Cost of cultivation, including weeding and thinning? Time and manner of harvesting? Cost of harvesting, including the storing and husking or threshing? Amount of crop, etc. Signed by ———, Competitor.

The committee, to whom is entrusted the award of the premiums on field crops, may award them according to their judgment, but for the purpose of furnishing accurate statistics for the benefit of agriculture, shall select certain of the crops, and require the owners thereof to measure the land and weigh the crops accurately, giving to the committee a certificate of the same, and give all possible information thereon over their own

signatures, and return the same to the Secretary of the Society, to be published in the annual transactions.

In ascertaining the amount of crop, any vessel may be used and the weight of its contents once, multiplied by the number of times it is filled by the crop.

In measuring the land, or weighing crops, any competent person may be employed, whether a sworn surveyor or not, and must give certificate.

The certificates shall state the weight of all crops only in a merchantable state.

In ascertaining the amount of a hay crop entered for premium, the measurement of the hay in the barn may be employed.

Rules of Measure Practiced and Adopted by the State Board of Agriculture.

Wheat, Potatoes, Sugar Beets, Ruta Bagas, Mangold Wurtzel, White Beans and Peas,	60 lbs. to bush.
Corn, Rye,	56 " "
Oats,	32 " "
Barley, Buckwheat,	48 " "
Cracked Corn, Corn and Rye, and other meal, except Oats,	50 lbs. to bush.
Parsnips, Carrots,	55 " "
Onions,	52 " "

1. For the best conducted experiments of Rye, not less than twenty bushels to the acre, fifty-six pounds to the bushel, on not less than one acre, premiums, $10, $5

2. For best conducted experiments of Wheat, not less than thirty bushels to the acre, sixty pounds to the bushel, on not less than one acre, premiums, $10, $5

3. For best conducted experiments of Oats, not less than fifty bushels to the acre, thirty-two pounds to the bushel, on not less than one acre, premiums, $10, $5

4. For best conducted experiments of Barley, not less than forty bushels to the acre, forty-eight pounds to the bushel, on not less than one acre, premium, $10, $5

5. For best conducted experiments of Indian Corn, not less than one acre, premiums, $10, $5

6. For largest quantity and best quality of English Hay, on not less than one acre, regard being had to the mode and cost of cultivation, premiums, $10, $5

7. For best yield of Field Beans, on not less than half acre, and not less than twenty-five bushels per acre, premiums, $10, $5

ROOT CROPS.

1. For best conducted experiments in raising Carrots, fifty-five pounds to the bushel, premiums, $10, $5
2. For best conducted experiments in raising Parsnips, fifty-five pounds to the bushel, premiums, $10, $5
3. For best conducted experiments in raising Ruta Bagas, sixty pounds to the bushel, premiums, $10, $5
4. For best conducted experiments in raising Mangold Wurtzels, sixty pounds to the bushel, premiums, $10, $5
5. For best conducted experiments in raising Sugar Beets, sixty pounds to the bushel, premiums, $10, $5
6. For best conducted experiments in raising Onions, fifty-two pounds to the bushel, premiums, $10, $5
7. For best conducted experiments in raising Potatoes, sixty pounds to the bushel, premiums, $10, $5
8. For best conducted experiments in raising Cabbages, premiums, $10, $5
9. For best conducted experiments in raising Squashes, premiums, $10, $5
10. For best conducted experiments in raising Summer English Turnips for the market, premiums, $10, $5

Raised on not less than half an acre, and the quantity of crop to be ascertained by weight, so far as practicable, the crops to be free from dirt, without tops, and in a merchantable condition at the time of measurement.

Claimants for premiums on Grain or Root Crops must forward statement to chairman of committee before Nov. 1st.

FOREST TREES.

1. For best plantation of either of the following species of forest trees, viz.:—White Oak, Yellow Oak, Locust, Birch, White Ash, Maple, Walnut, or White Pine, not less than three years old, and not less than 1000 trees, premium, $20
2. For best do., of not less than 600 trees, premium, $10
3. For best lot of ornamental trees, ten or more set on any street, road or farm, and cared for five years, premium, $10

CRANBERRIES.

For best conducted experiment in the cultivation of the Cranberry, at least two summers, on not less than twenty rods of land, with written statement of the quantity and quality of land, expense of planting, weeding and culture, and amount of crops produced. Premium to be paid in 1887 or 1888, $15

For best experiment do., on not less than ten rods of land, premium, $10

For best do., on not less than five rods of land, premium, $10

STRAWBERRIES AND OTHER SMALL FRUITS.

For best crop of Strawberries, on not less than twenty rods of land, expense of planting, culture, crop, etc., stated in writing, premium, $10

For best crop Currants, Raspberries and Blackberries, with statement as above, premiums, each, $10

NEW WINTER APPLES.

For a new variety of Winter Apple, originated in this County, equal to the Baldwin, premium, $100

For a new variety of like character originating elsewhere, *provided* it has been cultivated in the County sufficiently to prove it equal to the Baldwin for general purposes, premium, $20

For a successful experiment in destroying the codling moth and other worms destructive to the apple, premium, $25

SEEDLING POTATOES AND EXPERIMENTS.

For best Seedling Potato, originating in Essex County, to equal in yield, earliness and quality, the Early Rose, and to surpass it in one or more of these particulars, premium paid after three years trial, $25

In testing the value of a seedling Potato, the committee are instructed to take the sworn testimony of the cultivator with regard to the yield, after having inspected the crop.

For the most satisfactory experiment to extend through five consecutive years, to settle the following facts relative to raising potatoes:—premium, $50

1st. Will whole, medium sized Potatoes, yield better results than pieces cut to two eyes?

2d. What will be the result of continuously planting small-sized potatoes of the same strain a series of years?

3d. Difference between hilling and flat cultivation.

4th. Effect, if, any, of cutting off seed ends before planting.

5th. Effects of deep and shallow planting.

6th. Raising from sprouts alone from same strain.

7th. Can potatoes having dwarf vines be planted nearer than others.

8th. Best distance apart for seed in the drill.

9th. To show the effect of covering the top with earth at several times after they had come up.

To be raised on not less than a half-acre of land, uniform in character, and all to receive the same kind and quality of manure and cultivation, and to be inspected by the committee at the time of gathering the crops.

NEW MEMBERS.

For the person who obtains the largest number of new members for the Society from any Town or City before the first day of November next, $6

NOTE.—Names of new members, with name of person procuring them, can be sent as fast as obtained, to the Secretary of the Society, who will make a record of them.

Persons paying three dollars will receive a "Certificate of Membership," which is for life. No fines or assessments are ever imposed and members are entitled to vote in all its transactions, with free use of the Library and a copy of the publication of the Society each year.

ESSAYS AND FARM ACCOUNTS.

The Essays must be transmitted to the Secretary by the 1st of November, with sealed envelopes containing the names of their authors, respectively, which shall not be opened by the committee, nor shall the names be known to the committee until they shall have decided upon the merits of the Essay.

For best original Essays on any subject connected with Agriculture, in a form worthy of publication, premiums, $15, $10, $8

For best statement of Actual Farm Accounts, drawn from the experience of the claimant, in a form worthy of publication, premium, $10

For best Reports of Committees, who report upon subjects for which premiums are offered by the Society, premiums, $10, $8, $6

For best Statements of Exhibitors, premiums, $8, $4

COMMITTEES.

Committees for Judges, and Arrangements for the next Cattle Show and Fair, are chosen at the Trustees Meeting in June next.

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T. Jefferson Coolidge

TRANSACTIONS

FOR THE YEAR 1887.

OF THE

ESSEX AGRICULTURAL SOCIETY,

OF THE

COUNTY OF ESSEX,

IN MASSACHUSETTS.

WITH THE

Sixty-Fifth Annual Address,

— BY —

WILLIAM COGSWELL, M. D.,

OF BRADFORD.

PUBLISHED BY ORDER OF THE SOCIETY.

SALEM, MASS.:

SALEM OBSERVER BOOK AND JOB PRINT.

1887.

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ADDRESS.

Mr. President:—I propose to speak in a practical way of our Indebtedness to the Farm. My subject might well be suggested by the display which is this day made by the farmers of Essex. These fruits and flowers, tempting to the taste, give us some notion of what the earth yields to furnish our tables and gladden our homes. No one can look on the wonderful variety of Nature's gifts, without gratitude. We may well take satisfaction and be filled with honest pride as we behold the lowing herds, the bleating flocks, the patient ox, the knowing horse, and not the least the fowls that give grace and beauty to every well appointed farm. It is a grand procession that has come up through all the thoroughfares of Essex to join in this farmers' holiday, and everything we see is a testimony to the fact that Nature is always rendering tribute to man. This exhibition of machines and tools, and instruments, shows the skill and wisdom of man in devising ways of gaining more largely and with greater ease the products of the earth. We are impressed with the fact that these gifts are so abundant that we may never exhaust the bounty of Nature. Every year great harvests grow out on the prairies, which all the power of man could never cut and garner without the use of the reaping machine and the thresher. When the earth is honestly tilled, it becomes a problem which exhausts our skill to know how to gather and transport

the products. It is sometimes said that the former times were better than these, and desponding men think the race is deteriorating; but if our fathers of blessed memory ever had better fruits of husbandry, better cows, or horses, or swine, better needlework, or bread, or sweeter butter, or more delicious sweetmeats, they have left no record of the happy day when they showed them. Heaven be praised! that the mantle of the fathers has fallen on their children; early vigor of New England life has not entirely passed away with the generations that have gone.

THE BLESSING OF HEALTH.

The first indebtedness of which I shall speak is for the health which comes so naturally to the farmers' employ. What constitutes health? It is not the simple absence of pain or disease. It is not to be defined by negatives. Health is the vigor of strong muscles, which make the man robust in action, elastic in step, ready for duty, able to overcome obstacles and to grasp and hold for advantage the blessings which are always within the reach of him who has power to take them. Ability always finds opportunity. Health is in the vigorous lungs which take in freely the pure air of heaven, fill the blood with oxygen, cleanse it from the constant waste of the system; and in the steady pulse which sends the cleansed current as a red river of life through the whole body, giving constant renewal of strength, and grace, and beauty to every part. Health is the power to take the good things of God and digest and assimilate them for all the uses of our manifold life; what is a man good for who has not a good digestion?

Health is the potency of the brain, transmitting its

force along the nerve currents, marshalling the powers of mind and body, so that the will of man is supreme in its control, and every muscle and organ and faculty moves at its command. The mysterious relation of brain and nerves to the healthful activities can never be explained, but the fact is not to be doubted that in a condition of health the brain rules in the conscious and the unconscious action of the whole body. It is often said that the mind is diseased, but the truth commonly is that the brain is affected, so that it cannot act for the mind either in transmitting its commands or in its equally important unconscious influence along the lines of the nerves in controlling digestion, in helping on in the assimilations and secretions, and even in the circulation of the blood. A weak or sickly brain brings inefficiency into all our actions, and enfeebles and distorts the best energies. Now I raise the question, where would you send a man to gain strong muscles, a vigorous digestion, and the healthful activity of lungs, and heart, and brain, if it be not to the labor which is under the open heavens, and to feed without restraint upon the best bounties of God, which come from the well kept farm.

I need hardly say that health is essential to our joy. It is the thing we seek after with great longing. The ancient Alchemist sought in vain to change all things into gold. There is a modern Alchemist who not only seeks for the great panacea, but claims to have found it, and the world is full of his boasts, and men and women in countless numbers are seeking for the blessings of his healing art. They search for health along all avenues, by all remedies and arts, and in all climes. This desire is emphasized by the miseries of a ruined body, whose aches and pains are so many voices always crying out to

be whole again. And every honest physician will testify that it is infinitely easier to preserve our health and develop it, than it is to restore it when lost. In the increasing wisdom of our times, it has come to be understood that health of body is necessary for all classes. There was a time when sickly boys were turned into the professions. The unhealthy body, which could not endure the work of the farm, might still be of service in the study. That fallacy has passed away. We now send sickly men out of the professions to the farm. We send sick ministers and doctors as we do broken down horses, "out to grass," and we send into the professions the strongest men we have. We look for a sound mind in a healthy body. We believe in a sturdy, honest, hardy piety, which is able to do the will of God as well as to long for something spiritual. A vigorous brain needs good digestion. A dyspeptic stomach breeds morbid thoughts. Whatever wastes the energies, depraves the mind. Disease is not confined to the body, but it preys on the sensibilities and the intellect, and destroys the glory of life. It is not strange, then, that men long for health. I claim that the conditions of health are best secured by the farmer. He breathes God's pure air, and that air is not mingled with the dust of the mill, or the contagion that lurks in the crowded streets and alleys. He breathes the air fresh from the hills, cleansed by every shower, fragrant with the breath of heaven; pure air, full of oxygen, which reddens the blood, and sends it with living power to give strength and glowing beauty to the whole body. The farmer does not work behind some wall which hides the sun; his labor is where the sunlight paints the flower, and fills the apple boughs with crimson, and adds the purple to the luscious grapes.

He feeds on the bounties of God. The earth yields to him its fruit in its freshness. Good food is essential to health. Give me the natural products, not the result of the laboratory; well grown, well ripened grain and fruit, clover honey, and clover butter, instead of flavored glucose and oleomargarine; golden syrup from the sugar maple and the cane, instead of the gift of the chemist; water from heaven, distilled from the clouds, percolating through the earth and babbling in the living stream.

HEALTHFUL EXERCISE.

I am not forgetful of the hard labor and frequent exposure of farm life, when I say that the farmer has the best possible exercise. This body of ours must be used if we would have it healthy. The spring that is in perfect rest becomes stagnant; the air that never moves is filled with germs of disease—so God makes the living spring, which never rests, and sends the winds which ventilate the world, and keep the waters of the ocean as a reservoir of health, which otherwise were a pool of death. The muscle of your arm must be used, or it will lose its power; everything must act. It must be evident that the farmer's life gives exercise to the whole body. The simplest tool of husbandry serves a double purpose, reaching the present aim, and developing also the hand of him that uses it. More honorable by far in the history of man, are the implements of honest labor, than all the balls and bats and things the athlete uses in his life of sporting vanity. The aim of life is very low if it does not take in some purpose to accomplish some useful thing. The grandest motto of life is, "I live to serve." The simple development of strength of body or mind is of little consequence, if that strength does not render

service. In the early days of the civil war our army was in the process of training. The early battles resulted in defeat. But the army grew stronger with every reverse. Fidelity to duty in the hearts of our patriot soldiery was the inspiration of a new resolve in those dark days, when the fate of the nation hung in the balance. The training of the camp, the knowledge of tactics, the hardening of the body inured to hardships, were elements of strength in that contest when an invincible army moved on dauntless, through the wilderness of death, and swept over the fields of Georgia—adding victory to victory, till the battle was won and the soldiers rested at Appomattox. It was strength devoted to a grand purpose. It was the result of discipline. What is an army good for if it will not fight? What is a man worth if he shirks responsibility, fails in the time of greatest need? What is a man worth if he will not work? This is the more important, when we consider that in all things conflict is necessary in order to succeed —an easy victory means small gain. The most successful man is he who has the most to do. His fertile brain devises the plans of life; his hands carry out the things devised. You cannot gather so much gold as to be able to secure success to your son by any foundation on which you place him. Work, work, work, is the secret of all progress. Not the treadmill as in slavery, not the blind following instinct as the squirrel gathers nuts, but the work of hand and foot, guided by an active brain. The most successful nation does not live in tropical lands, where nature is most opulent with her gifts. But that nation whose ships float on every sea, whose people enter with pride the rivalries of common lives, where the soil is less productive, and nature's forces are held in re-

serve for those who work with her. The largest success lies within the secret place where nature holds her treasures ready for him who surmounts the obstacles, and earns the right and title to her gifts untold.

LABOR AND REST.

The next suggestion of our indebtedness to the farm is that it affords intervals of rest. The best condition of health is when rest and labor are so intermingled that the life is renewed for the duties of each new day. It is one of the pleasant things which the Hebrew bard sang of the gifts of God when he added to his verse, "So he giveth his beloved sleep." Rest answers a necessity of nature. It recuperates the weary body. It gives new strength to the over-taxed brain, and sends man fresh and vigorous to each new duty. Rest is a law of nature.

The trees rest. You shall see when the season is over, how the apple boughs have little buds ready formed for next year's growth. Nature forms the bud, covers it with varnish to keep out the moisture, and then the tree sleeps till it is awakened by the soft winds and the voices of birds singing in the branches in the opening spring. You can wake up that tree in the cold winter time, by bringing it within doors, but it will be like a man roused at midnight: restless and fruitless all the day. Nature teaches us the duty of rest; every shrub and herb, and tender plant, has its season of repose. The land rests. God spreads the white mantle over it, and it sleeps through its winter night. The frost disintegrates it, and loosens and lightens and tempers it, and he is a foolish farmer who tries to work the soil before nature has made it ready. The wise man watches the opening season, and at the appointed time puts in the

ploughshare which turns the black furrows to the sun, and combs the ridges with the harrow, and drops the seed into the mellow loam. The spring-time is nature's morning. The white spread vanishes, sun and shower send greetings from heaven, the buds burst, the birds sing, and a soft verdure clothes the fields. The pastures are clothed with flocks; the valleys are covered with corn.

This lesson of rest we read in the world of growing things. Man also rests from his labor. There is no scene of greater beauty than a rural landscape at the close of day. The ploughman lifts the yoke from the faithful ox; the milk-pails, brimming with foam, are brought in, and the quiet herd lie down to rest. The fowls crowd the perches; the shadows lengthen on the western hills, as the farmer gathers with his family round the evening board. The gates are closed—the bars are up; night draws the curtain, and the tired farmer sleeps. No dreams of unpaid notes disturb his slumbers. No fear of failure or unfair competition. He has done his duty; he leaves the rest to Him who sends the rain and sunshine. He rests in peace, for God giveth the increase.

THE FARM A SCHOOL OF THE INTELLECT.

There are many schools in which man is trained for duty and for life. Among them all I do not hesitate to rank as of first importance that which has its place in the unpretending home of the farmer. In the quiet beauty of every rural scene, the central object is the old farm-house, with shade trees, and garden, and orchard, and spreading lawn. By the fireside, in that home, the farmer gives lessons of wisdom to the growing boys. With his few books and his weekly newspaper, he keeps his

mind fresh and ready for instruction. Many a lesson on political economy is given by that fireside. There the youthful hearts learn of loyalty to the country. There the mind grows in adherence to the one or the other political party; and there, too, from the gentler voice of her who reigns as queen in her ample realm, are learned those sweeter lessons of love and virtue, which make life more dutiful and more beautiful as the years go on. So the farmer's sons and daughters grow into strength and beauty, in this early school. But more than this is true. We owe our intellectual power to the soil; that is to say, our intellectual force depends on the health which is gained by a proper use of the gifts of nature. The time has passed when men think without eating. The monk lived in the desert, and starved himself as a religious duty. But his religion was as meagre as his dish. The scholastic sometimes did the same thing; but thought was fettered by hunger. His genius was spoiled by the want he suffered. He tried to get away from sense, and gain spiritual ideas; but God has ordained that we should do our work in our realm of sense, and the best trained intellect will not ignore this, and the most important endowment a man can have is common sense. With that as a conscious possession he will never starve his body to make his mind broader, or break the laws of health in order to enlarge the spiritual faculties. Take away food from a man, and his whole being suffers. Good food, pure air, honest labor, and a clear conscience will do more than all else to restore that man who has broken the laws of his being and desires to regain the lost joy. The breaking of the laws of health brings a cloud over the mind. The wit and wisdom fail, and the grasp and grip of every faculty is lost.

RELATION TO MORALS.

I will not close without suggesting that the realm of morals comes clearly into the farmer's life. A man can sometimes deal unjustly with his fellow, and escape the penalty, but he can never do that with his land.

Nature teaches honesty. A man must be honest with his farm. If you defraud your land you will suffer loss. "Nature never forgives an injury." You can never prosper if you take out of your farm its power of production and make no restitution. You may ill-treat it and rob it, and then it will refuse you its gifts. You will be unable to feast from its bounty. The duty of rendering an equivalent is one of the common of the teachings of nature. Let out your land to a man who takes off the hay, and grain, and straw, and you will soon find your land barren. The very soil cries out against the sin of robbery. The farm teaches the duty of exerting a pure influence. Mix the Canada thistle with your seed oats, or let the white daisy have free range over your fields, or admit couch-grass into your garden, and you have done an evil which the labor of a generation will hardly redeem. Resistance of evil is a duty which the farmer knows to be a cardinal virtue. So in all our human relations, it is so very easy to let in the thing that is wrong. The evil thing needs no fostering; it will nourish itself. The thistle will grow in the hedge row, or in the heart of your field. Lust will dwell in the brothel, or in the sacred inclosure of home. It will not be subdued by the curses of the one, nor by the tears and lamentations of the other. You are not only dropping seed into the ready soil, but you are sowing the seed of character in the minds of all about you, especially in the hearts of children, who take the type of character from your ex-

ample and teaching. Be careful to sow good seed, which shall spring up in a harvest which shall bless the world.

The future citizenship of the land depends largely on the nature of the farmer's home.

The yeomanry of the land is large. It is homogenious, conservative. It is self-poised, independent, gifted with energy and power. It is intelligent and far-sighted. If it may perpetuate itself in the honesty, and integrity, and courage, and fidelity of the rising generation all the interests of the Commonwealth are assured. All other things are dependent on the farmer. The farm is the basis of all wealth and civilization. Take away its fertile meadows and sweet pastures, its well-kept fences and appointments; destroy its pure sod, and scatter its choice blooded stock; tear down the home-like farm-house, and trample the garden, and cut away the orchard,—and you have done what you can to destroy all that is blessed in the old Commonwealth. Destroy the farms that send these choice products which grace this day, and society would relapse into the age of Nomadic tribes; cities and commercial marts would be silent as the sand-covered palaces of Ninevah; business industries would be deserted, and all arts would fail. Manufactures are only the handmaids of agriculture. The smoke of the forges, the hum of the factories, the incessant heart beat of the engines, the railway thoroughfares—those great arteries of the republic,—are only the movements of our national life, which have their inspiration from the cultivation of the soil, which is the basis of all. Countless trains of coal, that light the fires on the hearth-stones of the nation's homes; petroleum, which changes darkness into day; wheat, and corn, and barley, and oats, and rye, which feed the people of our land, and the starved mil-

lions over the sea,—are all alike the gifts of God in nature. The vastness of the farmers' industry may be computed, but the aggregate is larger than our power of comprehension. And all this gift of nature is for the comfort, and strength, and development of man. The value of all social and civil institutions must always be measured by the intelligence, and virtue, and moral vigor of the freeholders of the land. Manhood has reached a rare development in our country. Property is widely distributed. The incentive which comes from the ownership of land leads to an honorable ambition. There is something for every man to hope for. The walls which in other lands divide men into classes, are not known here. Therefore, we behold, out of the ranks of the common people, the constant rise of distinguished men. They stand in the courts; they fill the places of statesmen, and jurists, and patriot soldiers. The father of his country was a farmer. Webster, and Clay, and Jefferson, and Adams, were farmers. The fathers of the Republic were your ancestors in occupation. The clergy were farmers in the early days, and if they communed more with nature to-day, there were less of useless debate about theoretical doctrines. The sturdy army that beat back the trained legions of King George, were the hardy pioneers whose strong arms had cleared the forests. We have a true pride in the development of genius. It is worth our while to study the great industries, to see what man has done. He compels the rivers to work like dray horses in the service of human industry. He stops the lightning, and bids it bear his message and bring reply. The numberless discoveries and inventions of man can only be looked upon with wonder and admiration. Thank heaven, that we have a land of boundless resources—the

happy home of a grateful people. The forests have abundant timber; the mines of silver, and gold, and copper, and lead, and iron, are the hidden treasures; our wheat fields, golden in harvest time; our meadows and uplands are fertile and luxuriant, from the spring on the mountain, to the river in the valley, producing everything that ministers to the comfort of man, from the lakes of the North to the Gulf, and from the Pine Tree State to the Golden Gate. Look over the broad land. How prodigal in fruits: apples and pears, apricots, peaches, and grapes, melons, and cherries, and plums, oranges and figs, and all the humbler fruits that with crimson and purple hues, and choice, rare flavor, grace the table of the humblest man who knows the royal privilege of owning a garden of his own.

Man was created and placed in a garden, or, on a farm. The fall of our first parents were less a mystery if the Heavenly Parent had placed them in a palace, with luxury, and wardrobes, laces and corsets, perfumes and cosmetics. It shows the wisdom and love of God, that they were placed in a home which was amid a garden of sweet herbs—a blossoming paradise; and their work was among the growing crops, which give comfort and satisfy all want. And away in the distance is a sure prophecy, and it is still a garden. The blessed days will come again, when the earth becomes a garden; its deserts shall blossom as the rose. The wilderness shall be glad, the river of life shall water it, the tree of life shall bear its fruit, and life shall be glad forever.

SIXTY-SEVENTH

Annual Cattle Show and Fair.

The Cattle Show and Fair of this Society was held Sept. 27th and 28th, at Peabody. The exhibits on the Show Grounds fell short in number from the previous year at Newburyport, by sixty-two entries, of which shortage 28 was of Agricultural Implements, 20 of Colts, and 12 of Poultry.

The quality of the stock exhibited was in most classes, of the best, and with the Ploughing Match was successful, attractive and well attended, and it is expected it will be much more so another season.

In the Town House the exhibits were shown in two large halls and a large anti-room, and the displays made in almost every class were the best quality of the products of the farm and garden, or of skill, taste and workmanship in Domestic manufactures. The lower hall was devoted almost wholly to Vegetables, which, with 22 less entries than the previous year, made a very attractive show of excellent quality.

The Exhibition Halls were well attended, the receipts, at 20 cents admission, was $1306.36 and the committees and others, admitted by free ticket, show an attendance of over 7000 in the hall.

On Wednesday, the second day of the Fair, a procession was formed, in the forenoon soon after eleven o'clock, of the officers, members and friends of the Society headed by the 8th Regt. Band, which proceeded from in front of the Town Hall to Peabody Institute, where the Annual Address was delivered by William Cogswell, M. D., of Bradford. Its good points have been appreciated no doubt by the reader in the preceding pages, if he

failed to hear it. After the address the procession reformed and with their ladies marched to the Rink, where the annual dinner, excellent and well served, was partaken of, followed by very instructive and entertaining speeches by the President, Benjamin P. Ware, E. W. Wood, delegate from the State Board of Agriculture, Hon. George B. Loring, of Salem, Hon. O. B. Hadwin, of Worcester, and Dr. William Cogswell, of Bradford.

The Entries in the several departments of the Fair and premiums awarded in each, are tabulated as follows:

STOCK, IMPLEMENTS, ETC., ON FREE SHOW GROUNDS.

	Entries.	From Different Places.	Amount of Premiums Awarded.
Fat Cattle,	4	4	$26
Bulls,	10	4	44
Milch Cows,	10	4	43
Herd of Milch Cows,	1	1	18
Heifers, First Class,	7	3	35
Heifer Calves, First Class,	5	3	18
Heifers, Second Class,	17	5	28
Heifer Calves, Second Class,	3	2	7
Working Oxen and Steers,	8	3	40
Steers,	1	1	4
Town Teams,	1	1	20
Brood Mares,	10	6	20
Stallions, First Class,	3	3	18
Stallions, Second Class,	2	2	24
Family Horses,	1	1	
Gentlemen's Driving Horses,	6	5	20
Farm Horses,	9	7	22
Pairs of Farm Horses,	11	8	24
Colts for Draft Purposes,	4	3	26
Colts for General Purposes,	16	10	53
Swine, First Class,	3	1	18
Swine, Second Class,	3	2	21
Sheep,	4	1	8
Poultry,	71	10	2 Diplomas. 44

	Entries.	From Different Places.	Amount of Premiums Awarded.
Ploughing,	18	10	100
Agricultural Implements,	15	6	27
Carriages,	12	3	1 Diploma. 30
Total on Free Show Grounds,	255	24	$738

EXHIBITS IN HALL.

	Entries.	From Different Places.	Amount of Premiums Awarded.
Dairy,	8	8	$22 00
Bread, Honey and Preserves,	61	11	27 00
Pears,	275	20	83 50
Apples,	320	25	76 50
Peaches, Grapes and Assorted Fruits,	121	15	65 50
Flowers,	70	11	43 25
Vegetables,	299	26	158 00
Grain and Seed,	35	17	31 00
Counterpanes and Afghans,	74	6	31 00
Carpeting and Rugs,	95	7	One Diploma. 27 50
Articles manuf. from Leather,	32	4	27 00
Manufactures and General Mdse.*,	26	7	*10 Diplomas. 2 50
Fancy Work and Works of Art,	229	9	49 25
Work of Children under 12 years,	21	5	13 50
Total in Exhibition Hall,	1666	33	$657 50

Grand Total, 1921 entries from 33 towns and cities of the county, all except Merrimac and Nahant, for which $1395.50 were awarded to 359 different persons. The entries were—Amesbury, 30; Andover, 15; Beverly, 34; Boxford, 38; Bradford, 23; Danvers, 176; Essex, 40; Georgetown, 5; Gloucester, 1; Groveland, 14; Hamilton, 8; Haverhill, 44; Ipswich, 4; Lynn, 80; Lynnfield, 9; Lawrence, 23; Manchester, 7; Marblehead, 38;

Methuen, 26; Middleton, 39; Newbury, 78; Newburyport, 11; North Andover, 22; Peabody, 861; Rockport, 5; Rowley, 32; Salem, 155; Salisbury, 3; Saugus, 9; Swampscott, 13; Topsfield, 5; Wenham, 38; West Newbury, 33; Out of the County, 2; Total, 1921 entries.

REPORTS OF COMMITTEES.

FAT CATTLE.

The Committee on Fat Cattle have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to Henry Gardner, Peabody, for 1 pair of oxen, weight, 4330 lbs.

$8. Second premium, to B. H. Farnum, No. Andover, for 1 pair of oxen, weight, 3330 pounds.

$8. First premium, to Wm. A. Russell, No. Andover, for fat cow, "Maud Clay," Holstein No. 390, age 10 years, weight 1900 lbs.

J. E. Bradstreet, Allen Smith, Geo. E. F. Dane, J. P. Little—*Committee.*

STATEMENT OF HENRY GARDNER'S FOREMAN.

The cattle entered by Henry Gardner are six years old, were raised in Franklin Co., Me., and bought in Watertown one year ago last Spring, then weighing 3360 pounds, now weigh 4330 lbs. They have worked on the farm; feed first summer was hay and two quarts of meal each, morning and night. Last winter the poorer quality of corn fodder and two quarts of cob meal each, once per day. The last summer, good hay and two quarts of meal each, morning and night.

ANDREW J. HAYES, foreman.

STATEMENT OF B. H. FARNUM.

The oxen which I enter for premium, are six years old. I have owned them twenty-three months. They weighed when I bought them, 2550 pounds. They have done all the ox work on my farm, besides working considerable on the road, since I owned them. The first winter, their

feed was meadow-hay, night and morning, and English hay at noon. Also, two quarts of meal each, per day. The first summer, they had pasture feed, and I commenced to meal them in the fall again. Last winter, when they worked hard, I fed them eight quarts of meal each, per day, with meadow hay morning and night, and English hay at noon. They were turned out to pasture last June, and have had meal occasionally, as they were taken home to work. The first of September, they were turned in fall feed, with two quarts of meal each, per day, to the present time. Their weight to-day, is 3330 pounds.

B. H. FARNUM.

STATEMENT OF WM. A. RUSSELL.

The cow, Maud Clay, No. 390, H. H. B., awarded first premium, for Fat Cow, is a full blooded, home-breed, Holstein, ten years old; weight, 1900 pounds. She failed to breed the past season, but is giving some milk. Her feed, through the season, has been four quarts of corn meal, hay, or green corn fodder morning and night, and has been turned out to pasture through the day. The pasture has been fed very close, by overstocking.

Respectfully submitted,

Wm. A. RUSSELL.

By JAS. C. POOR, *Manager.*

BULLS.

The Committee on Bulls, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to John Swinerton, Danvers, for 2 years old Ayrshire bull, No. 3697, A. B. R. "Geo. Essex." Sire, "Glencarne," 2469; Dam, Lady Essex, 4, No. 4450.

$5. Second premium, to D. A. Massey, Danvers, for Ayrshire bull, No. 8821, A. B. R. "Queer," dropped Nov. 9, 1885.

$10. First premium, to Isaac C. Wyman, Salem, for Jersey bull, No. 18,401, A. J. C. C. (New York), "Hengist," dropped Aug. 7, 1885. Sire, "Nauticus," (6648); Dam, "Chinchilla" (17,092), owned by present owner, 21 months.

$2. First premium, to John J. Gould, Ipswich, for Jersey bull calf, "Pojo," No. 18,692.

$10. First premium, to William A. Russell, Lawrence, for Holstein bull, 4 years old, "Lord of Cornwall," No. 3429, H. H. B., dropped May 5, 1883.

$5. First premium, to William A. Russell, Lawrence, for Holstein yearling bull, "Lavinia 2d Bismark," No. 2128, H. F. H. B., dropped Jan. 7, 1886. Sire, "Lord of Cornwall," 3429; Dam, "Lavinia 2d, 1115.

$2. First premium, William A. Russell, Lawrence, for Holstein bull calf, "King Ruiter," dropped May 9, 1887. Sire, "Lord of Cornwall;" Dam, "Queen Ruiter," 4488.

Joshua H. Chandler, Elbridge Mansfield, John L. Shorey—*Committee.*

MILCH COWS.

The Committee on Milch Cows have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$15. First premium, to Wm. A. Russell, Lawrence, for best milch cow of any age or breed, Holstein Fresian cow, "Madam Aberdare."

$10. First premium, to William A. Russell, Lawrence, for best milch cow, foreign, native, or grade, 4 to 10 years old, Holstein cow, "Lady Lyons."

$4. Second premium, to Wm. A. Russell, Lawrence, for next best (as above), Holstein cow, "Lady Noble."

$10. First premium, to Wm. A. Russell, Lawrence, for milch cow of any recognized breed, 4 years old or upwards, Holstein cow, "Esther Morrison."

$4. Second premium, to Wm. A. Russell, Lawrence, for next best (as above), Holstein cow, "Madam Wit."

The owners of cows of other breeds did not furnish to the Committee any statements in regard to their cows, as required by the Society, therefore, they were not judged upon.

Doane Cogswell, T. F. Newman, Frank P. Todd—*Committee.*

STATEMENT OF RUSSELL COWS.

To Committee on Milch Cows:

I enter for best milch cow, of any age or breed, Holstein-Fresian cow, "Madam Aberdare," No. 6803, H. H. B., 8 years old. Imported in 1884. Milk record, from March 1, 1885, to March 1, 1886, 13184 pounds. Milk record, from Aug. 20, 1886, to July 1, 1887, 12815 pounds. Dropped last calf, Aug. 19, 1887. Milk record, 30 days, Aug. and Sept., 1840 pounds.

I enter for best milch cows, either foreign, native, or grade, Holstein-Fresian cows.

"Lady Noble," No. 390, H. H. B., 9 years old. "Lady Lyons," No. 6805, H. H. B., 6 years old. "Lady Noble" dropped last calf, Dec. 28, 1886. Milk record, from Jan. 1, 1887, to July 1, 1887, 8925 lbs. "Lady Lyons" dropped last calf, Sept. 1, 1887. Milk record for 10 days in Sept., 609½ lbs. Milk record, from July 1, 1886, to July 1, 1887, 12815 lbs.

For Holstein-Fresians, 4 years old, and upward.

"Esther Marion," No. 1585, H. H. B., 6 years old. "Madam Wit," No. 7476, H. H. B., 5 years old. "Esther Marion" dropped last calf, June 25, 1886. Due to calve Oct. 20, 1887. Milk record, from July 1, 1886, to May 1, 1887, 12692 lbs. "Madam Wit" dropped last calf,

Nov. 13, 1886; is due, Dec. 17, 1887. Milk record, from Dec. 1, 1886, to June 1, 1887, 7825½ lbs.

Statement of Feed and Management.

The winter feed of these cows is 8 to 12 qts. shorts and fine feed, and 4 qts. meal (corn on cob and oats ground together, two parts corn, and one part oats), ensilage once per day, and dry fodder, consisting of English hay, with corn fodder and oats, or barley fodder mixed, fed once per day.

One-half of the above quantity of grain is given with the ensilage, at about 7 A. M. They are watered at about 9 A. M. They get nothing more until 2.30 P. M., when the balance of the above grain is given dry; and after this is eaten they are fed with the above dry fodder, and at 4.30 they are again watered.

Milking begins at 5 A. M. and at 6 P. M. Cows giving a large mess of milk are milked three times a day, morning, noon, and night.

In summer the cows go out to pasture, which is small for the number of cows kept, and are fed with dry hay, clover, oats or barley, fodder, dried, and corn fodder in its season, also have some grain, not as much as in winter.

Respectfully submitted,

WM. A. RUSSELL.

By J. C. POOR, *Manager.*

HERD OF MILCH COWS.

The Committee on Herd of Milch Cows have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$18. First Premium, to W. A. Russell, Lawrence, for herd of milch cows.

Geo. L. Hawkes, Francis R. Allen, Wm. B. Carlton, N. P. Perkins—*Committee.*

STATEMENT OF RUSSELL HERD.

To Committee on Herds of Milch Cows:

I enter for best herd of milch cows, Holstein-Fresian cows, "Madam Aberdare," No. 6803, H. H. B., 8 years old. "Lady Lyons," No. 6805, H. H. B., 6 years old. "Lady Noble," No. 390, H. H. B., 9 years old. "Esther Marion," No. 1585, H. H. B., 6 years old. "Madam Wit," No. 7475, H. H. B., 5 years old.

"Madam Aberdare" dropped last calf, Aug. 19, 1887. "Lady Lyons" dropped last calf, Sept. 1, 1887. "Lady Noble" dropped last calf, Dec. 28, 1886. "Esther Marion" dropped last calf, June 25, 1886. "Madam Wit," dropped last calf, Nov. 13, 1886.

"Madam Aberdare's" milk record for two previous seasons, is 13184 lbs. and 12815 lbs. respectively. For past 30 days, 1840 lbs. "Lady Lyons'" record, 10 days in Sept., 609½ lbs. Record for last year. 12 months, 12815 lbs. "Lady Noble's" record from Jan. 1 to July 1, 8925 lbs. "Esther Marion's record from July 1, 1886, to May 1, 1887, 12692 lbs. "Madam Wit's" record from Dec. 1, 1886, to June 1, 1887, 7825 lbs.

The above records were determined by weighing and recording at each milking.

The winter feed for these cows was from 4 to 6 qts. shorts and 2 qts. meal (corn on cob and oats, ground together, 2 parts corn, 1 part oats), this amount twice per day, ensilage once per day, and dry fodder (a mixture of English hay, corn, oats), or barley fodder, once per day. Watered twice a day, and when fresh in milk, milked three times. They go to pasture in summer (but the pasture is a short one), and they are fed morning and night, with hay, clover, oat or barley, and corn fodder in its season, and have about one-half the amount of grain as in the winter.

Respectfully submitted,

WM. A. RUSSELL.

By J. C. POOR, *Manager.*

HEIFERS, FIRST CLASS.

The Committee on Heifers, first class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to W. A. Russell, Lawrence, for Milch heifer, "Queen Abberkerk."

$4. Second premium, to W. A. Russell, Lawrence, for Milch heifer, "Maud Clay 2d."

$4. First premium, to W. A. Russell, Lawrence, for Holstein heifer, "Essex Princess," 2 years old, never calved.

$3. Second premium, to W. A. Russell, Lawrence, for Holstein heifer, "Queen Frederick," 2 years old, never calved.

$4. First premium, to W. A. Russell, Lawrence, for Holstein yearling, "Esther Shepard."

$4. First premium, to W. A. Russell, Lawrence, for Holstein calf, "Princess William Archer."

$3. Second premium, to W. A. Russell, Lawrence, for Holstein calf, "Syreza Archer."

$10. First premium, to D. A. Massey, Danvers, for Ayrshire heifer, "Mars Dora 2d," No. 7937.

$4. First premium, to D. A. Massey, Danvers, for Ayrshire calf.

$3. Second premium, to D. A. Massey, Danvers, for Ayrshire calf.

$4. First premium, to W. S. Dickson, Salem, for Jersey calf.

John S. Ives, of Salem, entered one 3 year old Ayrshire, without pedigree or number; a very likely one, but did not come under our class.

G. B. Bradley, John Parker, Andrew Lane, Jr.—*Committee.*

STATEMENT OF RUSSELL HEIFERS.

To the Committee on Heifers, 1st Class:

I enter for Heifer under 4 years old in milk, "Queen Abberkerk," No. 4457, H. F. H. B., 2 years old. "Maud

Clay 2d," No. 9712, H. F. H. B., 2 years old. "Queen Abberkerk" calved July 21st. Milk record in August 36 pounds per day. "Maud Clay 2d" calved June 29th. Milk record in July, 34 pounds per day.

Heifers two years old, never calved. "Essex Princess," No. 4480, H. F. H. B. "Queen Frederick," No. 4467, H. F. H. B.

Heifer one year old. "Esther Shepard," No. 3008, H. F. H. B. Dropped March 17, 1886.

Heifer Calves. "Princess William Archer." Dropped May 16, 1887. Sire, "Royal Archer," 3263, H. F. H. B. Dam, "Princess Willem," 4454, H. F. H. B.

"Syreza Archer," dropped June 1st, 1887. Sire "Royal Archer," 3263, H. F. H. B. Dam, "Syreza," 1050, H. H. B.

Respectfully submitted,

W. A. RUSSELL,

By J. C. Poor.

HEIFERS—SECOND CLASS.

The Committee on Heifers, Second Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to James F. Cody, Peabody, for Milch Grade Jersey heifer, under four years old.

$4. Second premium, to Timothy O'Keefe, Peabody, for Milch Grade Jersey Ayrshire heifer, under four years old.

$4. First premium, to John Barker, North Andover, for 2 year old Grade Holsteins; never calved.

$3. Second premium, to J. A. Jones, Lynn, for 2 year old Jersey and Ayrshire; never calved.

$4. First premium, to Daniel G. Tenney, Newbury, for one year old Grade Jersey.

$3. Second premium, to City Farm, Salem, for one year old Grade Holstein.

$4. First premium, to Jenkin M. Emerson, Middleton, Heifer calf, 7½ months old.

$3. Second premium, to Stephen Blaney, Peabody, for Twin Calf, 8 weeks old. Dam, 3 years old, has had 3 calves.

O. L. Carleton, A. T. Newhall, J. K. Bancroft, J. Otis Winkley, J. Frank Foster—*Committee.*

WORKING OXEN AND STEERS.

The Committee on Working Oxen and Steers have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$12. First premium, to Lyman Wilkins, Middleton, for working oxen, 7 years old, weight 2640 lbs.

$10. Second premium, to Geo. P. Wilkins, Middleton, for working oxen, 5 years old, weight 2720 lbs.

$8. Third premium, to Wm. P. Christopher, Middleton, for working oxen, 6 years old, weight 2680 lbs.

$10. First premium, to B. H. Farnum, North Andover, for working steers, 4 years old, weight 2850 lbs.

John B. Jenkins, Nathan Longfellow, Jas. P. Cleveland—*Committee.*

TOWN TEAMS.

The Committee on Town Teams have attended to their duty, and respectfully report to the Secretary that they have made the following award:

$20. First premium, to Middleton town team, 11 yoke of oxen, 29,775 lbs.

REPORT ON TOWN TEAMS.

The Committee on Town Teams report that only one team of oxen was entered, and none of horses.

This was much to be regretted, as a good team always interests the people, and competition is desirable in a department where the premiums offered are generous, as in this of town teams. One of the committee endeavored

to get C. H. Warren & Co., of Danvers, to exhibit their fine team horses, but the demands of business prevented. Perhaps in no direction is the change in farming more noticeable than in the displacement of oxen by horses, on most of the farms of the county. This affects our show more and more each year, until it is possible that at no distant date, the ox-team will disappear from our show entirely. In view of this, the enterprise of our Middleton friends is to be commended, in showing eleven yoke of fairly good oxen,—not very large nor fancy, but honest workers, and, in the opinion of the committee, worthy of the first premium.

We were pleased with the skill with which Mr. Lyman Wilkins and Mr. William Christopher handled the long string of oxen, for in these days, a good ox-teamer is hard to find.

We should like the experience of some farmer who has changed from oxen to horses, as to the expense of keeping in working condition, wear of outfit, value at end of five years, and value of work done in that time,—if it could be obtained for publication. Mr. Day of this committee, is certain that even at the present low price of beef, and with all its slowness, the ox-team is the most profitable for the farmer. His long experience gives his opinion weight and value.

Could the fact be brought out I think we should find that one reason why horses are so much more popular at present is, that the driver can ride all the time, thus escaping much fatigue, and saving some time on the journey.

Respectfully submitted,

CHARLES J. PEABODY, *for Committee.*

Charles J. Peabody, Royal Day, E. B. Perley—*Committee.*

STEERS.

The Committee on Steers have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$4. First premium, to B. W. Farnum, No. Andover, for One pair steer calves, 5 months old.

Sherman Nelson, Charles P. Mighill, John Parkhurst—*Committee.*

STALLIONS, FIRST CLASS.

The Committee on Stallions, First Class, have attended to their duty, and respectfully report tc the Secretary that they have made the following awards:

$10. First premium, to H. H. Hale, Bradford, black Percheron stallion, for farm and draft horses, "Major Dome," 4 years old, weight, 1580 lbs. Imported, 1885, No. 4345.

*$8. First premium, to John Parkhurst, Boxford, for grey Grade Percheron stallion, "Romeo," 3 years old, weight, 1300 lbs.

Geo. B. Loring, W. P. Bailey, C. N. Maguire—*Committee.*

*This award was made at Trustees' Meeting, in November, changing this and another award of the Committee.

STALLIONS, SECOND CLASS.

The Committee on Stallions, Second Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to John P. Conant, Wenham, chestnut stallion, four years old, for driving horses.

$6. Second premium, to John Flye, Saugus, for black stallion, 8 years old, "Allen Patchen."

*$8. Gratuity, to John Looney, Salem, bay stallion, "Almot Wedgewood," 4 years old, sired by "Wedgewood."

A. B. Woodis, Wm. R. Roundy, Wm. B. Carleton—*Committee.*

*Transferred by order of Trustees, at their November meeting,

from "First Class," where it had been entered, and a premium of $8 awarded by the Committee, to its proper class, and $8 gratuity awarded, as premiums in this class had been awarded by the Committee.

BROOD MARES.

The Committee on Brood Mares have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to Abbott & Reynolds, Salem, for bay mare, 6 years old, weight 1300 lbs., and foal 3½ months old.

$6. Second premium, to Michael Looney, Salem, for chestnut mare, 6 years old, weight 1000 lbs., and foal 6 weeks old.

$4. Third premium, to Edwin Bates, Lynn, for chestnut mare, 12 years old, weight 1100 lbs., and foal 3 months old.

Horace F. Longfellow, John F. Smith, Henry A. Hayward—*Committee.*

FAMILY HORSES.

The Committee on Family Horses have attended to their duty, and respectfully report to the Secretary the following:

Only one entry, do not deem it worthy a premium.

David Stiles, Edward Harrington, Alden C. Estes—*Committee.*

Only one entry was made, and that was a horse that was labeled as weighing 840 pounds, which your committee thought was a little too light, if there were no other objections, and, therefore, by unanimous verdict the report was, "None worthy of a premium."

Such a report on family horses, probably never was made before in the history of the society. In years past, there have been a large number of entries, and the committee have found it difficult to decide who was entitled

to the first premium. But this falling off is accounted for in the fact that another class of horses has been added, called, "Gentlemen's driving horses," and these are very numerous, embracing nearly the whole herd of horses (except actual work horses), and every business man and every youngster who thinks anything of himself must possess one of these quadrupeds.

Now, where is the noble "family horse," safe at all times, and in all places, so highly prized by the family as they go to church, or to the city, or ride for pleasure over our New England hills. It is a rare thing to find a well-trained horse. Scarcely can we take up a paper but what gives some account of limbs broken or lives lost by unsafe horses. Many a home has been darkened forever, by the antics of some half-broken horse.

Our Society, from the first, wisely appropriated money to call the attention of the public to the important matter of the well training of horses, and yet, there has been a gradual departure from this rule for the last twenty years, and owners of horses have received premiums for animals hardly safe for every one to drive.

A good family horse should weigh about one thousand pounds, well proportioned, sound, stand without tying, trained not to start till the reins are taken up, and then to travel in good shape, from seven to eight miles an hour, without urging, passing objects without shying, and not afraid of the steam whistle, or the rattling cars, not less than seven or eight years old, and not over fifteen. Such a horse is worth not less than two hundred and fifty dollars, and may be twice that sum; while some of these gentlemen's driving horses would cost you about all your neck is worth to ride behind them.

The society, in offering these premiums wishes to encourage the better training of this most noble and useful animal; one that has so much to do for our comfort and safety, in domestic, as well as business life.

This statement has been added to our report, at the suggestion of the committee on family horses.

DAVID STILES, *Chairman.*

GENTLEMEN'S DRIVING HORSES.

The Committee on Gentlemen's Driving Horses, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to H. H. Hale, Boxford, for black mare.

$6. Second premium, to Dr. W. A. Gorton, Danvers, for bay mare.

$4. Third premium, to D. J. Tenney, Byfield, for chestnut gelding.

E. P. Barrett, S. W. Hopkinson, Chas. H. Gould, Geo. B. Loring—*Committee.*

FARM HORSES.

The Committee on Farm Horses have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to F. O. Kimball, Danvers, for dark brown gelding farm horse, 8 years old, weight 1100 lbs.

$8. Second premium, to M. H. Poor, West Newbury, for sorrel farm horse.

$4. Third premium, to B. H. Farnham, No. Andover, for farm horse, 10 years old gelding, weight 1055 lbs.

Entries nine,—eight competed for premium.

The Committee, after attending to their duties, would say, that all the horses drew the load (2000 lbs.) well, and they regret that they could not award more premiums, especially to the horses of Mr. Bates, of Lynn, and Mr. Holt, of North Andover. They would also call the attention of the Trustees to the fact that the horse of Mr. Perkins, of Lynnfield, was ruled out on account of being entered in the class of pairs of farm horses. All of which is respectfully submitted.

Albert Kimball, D. A. Pettengill, David M. Cole, Chas. M. Lunt—*Committee.*

PAIRS OF FARM HORSES.

The Committee on Pairs of Farm Horses have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$12. First premium, to A. F. Lee, Beverly, for pair farm horses, weight 2300 lbs.

$8. Second premium, to Peter Holt, jr., North Andover, for pair farm horses, weight 2500 lbs.

$4. Third premium, to C. N. Maguire, Newburyport, for pair farm horses, weight 2200 lbs.

Nathan F. Abbott, Moses H. Poor, Thos. E. Cox, jr.—*Committee.*

DRAFT COLTS.

The Committee on Draft Colts have attended to their duty, and respectfully report to the Secretary that they have made the following award:

$10. First premium. to Harry H. Hale, Bradford, for "Marita," imported Percheron black mare, 4 years old, weight 1509 lbs.

Daniel D. Adams, Nathaniel S. Harris, J. Henry Nason—*Committee.*

COLTS FOR DRAFT PURPOSES, SECOND CLASS.

The Committee on Colts for Draft Purposes, Second Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to James Kinnear, Ipswich, for black stallion, "Wallace," 2 years old, weight 1100 lbs.

$6. Second premium, to James J. Abbott, Andover, for sorrel colt, 2 years old, weight 1000 lbs.

John Q. Evans, James B. Smith, John A. Hoyt—*Committe*.

COLTS FOR GENERAL PURPOSES, FIRST CLASS.

The Committee on Colts for General Purposes, First Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to Eben S. Keye , Rowley, for 4 years old colt.

$6. Second premium to O. A. Blackinton, Rowley, for 4 years old colt.

$4. Third premium, to Daniel G. Tenney, Newbury, for 4 years old colt.

$8. First premium, to L. S. Morrison, Danvers, for 3 years old colt.

$5. Second premium, to Wm. A. Russell, North Andover, for 3 years old colt.

*$4. Gratuity. We recommend a gratuity of $4 to Woodbury Smith, of Rowley, for 4 years old colt.

Nathan A. Bushby, M. B. Chesley, Geo. B. Austin, Geo. W. Peabody—*Committee.*

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*The Trustees did not suspend the rule to allow this gratuity.

COLTS FOR GENERAL PURPOSES, SECOND CLASS.

The Committee on Colts for General Purposes, Second Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$6. First premium, to H. H. Hale, of Bradford, for two year old colt, a Bay Stallion.

$4. Second premium, to Edwin Bates, Lynn, for two year old stallion, "Eaton Wilkes."

$6. First premium, to Chas. Sanders, Salem, for bay yearling stallion.

$4. Second premium, to D. G. Tenney, Byfield, for one year old bay mare, "Sprite."

Chas. H. Gould, S. W. Hopkinson, Geo. B. Loring—*Committee.*

SWINE, FIRST CLASS.

The Committee on Swine, First Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$5. Second premium, to Elizabeth Saunders, W. Peabody, for breeding sow, and eight pigs.

$5. Second premium, to Robert G. Buxton, Peabody, for breeding sow, "Chester White."

$5. Second premium, to Samuel P. Buxton, Peabody, for breeding sow and ten pigs. "Yorkshire."

George Beecher, Daniel E. Moulton, Samuel Longfellow, —*Committee.*

SWINE, SECOND CLASS.

The Committee on Swine, Second Class, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$8. First premium, to Munroe Bros., Lynnfield, for Yorkshire Boar.

$8. First premium, to Robert G. Buxton, Peabody, for Yorkshire Sow.

$5. Second premium, to Robert G. Buxton, Peabody, for Yorkshire Breeding Sow.

George A. Dow, Francis Marsh, T. C. Thurlow,—*Committee.*

SHEEP.

The Committee on Sheep have attended to their duty, and respectfully report to the Secretary that they have made the following award:

$8. First premium, to R. S. Brown, Peabody, for Shropshire buck.

John L. Shorey, Elbridge Mansfield, Joshua H. Chandler, —*Committee.*

POULTRY.

The Judge of Poultry has attended to his duty, and respectfully reports to the Secretary that he has made the following awards:

$2.00. First premium, to Charles M. Poor, Peabody, for Buff Cochin fowls.

2.00. First premium, to W. H. Downes, Salem, for Light Brahma fowls.

1.00. Second premium, to Fred H. Wiley, Peabody, for Light Brahma fowls.

2.00. First premium, to Jos. H. Peirson, Newbury, for Light Brahma chicks.

2.00. First premium, to E. O. Bragdon, Danvers, for Dark Brahma chicks.

1.00. Second premium, to Charles M. Poor, Peabody, for Dark Brahma chicks.

2.00. First premium, to Samuel Rogers, West Newbury, for White Wyandotte fowls.

1.00. Second premium, to Samuel Rogers, West Newbury, for White Wyandotte fowls.

2.00. First premium, to L. W. Floyd, Newbury, for Laced Wyandotte fowls.

2.00. First premium, to Geo. H. King, Peabody, for White Leghorn chicks.

2.00. First premium, to W. E. Sheen, Peabody, for Brown Leghorn chicks.

2.00. First premium, to Nathan H. Poor, Peabody, for Plymouth Rock chicks.

2.00. First premium, to C. M. Poor, Peabody, for B. B. Red Game Bantam fowls.

2.00. First premium, to C. M. Poor, Peabody, for B. B. Red Game Bantam chicks.

1.00. Second premium, to Elmer Bates, Marblehead, for B. B. Red Game Bantam chicks.

2.00. First premium, to L. W. Floyd, Newbury, for White Game chicks.

2.00. First premium, to W. P. Perkins, Danvers, for lot of ducks.

2.00. First premium, to W. P. Perkins, Danvers, for lot of geese.

1.00. Second premium, to W. P. Perkins, Danvers, for lot of geese.

1.00. Second premium, to L. W. Floyd, Newbury, for lot of ducks.

5.00. First premium, to Fred H. Wiley, Peabody, for coop of 10 or more fowls, with statement of keeping and profit.

2.00. First premium, to G. D. Walton, Peabody, for dressed chickens.

2.00. First premium, to G. D. Walton, Peabody, for dressed ducks.

1.00. First premium, to Charles P. Preston, Danvers, for best dozen eggs.

First premium, Society's diploma, to Warren Newhall, Peabody, for breeding pen Bantams.

First premium, Society's diploma, to Charles M. Poor, Peabody, for breeding pen Dark Brahma chicks.

W. F. BACON, *Judge.*

Essex County Agricultural Society:

GENTLEMEN:—Supplementary to the regular report on poultry, I would most respectfully present for your consideration, a suggestion or two that I think would improve that department, increasing the number of exhibits, and improving the quality exhibited.

The general custom, at all poultry exhibitions, and at the majority of agricultural fairs, is to offer a premium on each variety of the following ducks and geese, while your society only offers a general premium for best lot.

Namely: In my opinion, you would encourage the breeding of water fowl, by offering premiums on Aylesbury, Rouen, Cayuga, Pekin, white and colored Muscovy, and Brazilian ducks; and Toulouse, Emden, Brown China, and African geese.

In entering exhibition of Breeding Pens, I believe a man should be allowed to mark one female, which, with the

male bird, should be entitled to compete for the general premium for best pair; also, go to make up the pen. This also is the general rule in most societies.

I would recommend that the exhibiting of mongrel or cross bred stock be discouraged, by offering no premium or gratuity, except on first-class birds; and, in order to assure that end, require a pair to figure 176 points, to win first premium. I would also recommend that a premium be offered for best dozen eggs, by each of the following classes: Asiatic, American, Game, French, and Spanish classes; the Hamburgs, Polish, and Dorkins to compete in the Spanish class.

Very respectfully yours,

W. F. BACON, *Judge.*

NOTE. The Trustees at their November meeting adopted above recommendations. See premium list for 1888.

POULTRY ACCOUNT OF FRED. H. WILEY, OF PEABODY, MASS., FOR EIGHTY-ONE WEEKS.

1886.		DR.	CR.
Feb. 8,	To 13 head of stock on hand,	$13 00	
Feb. 10,	By 2 Cockerels, sold,		$2 40
"	" 52 eggs,		1 40
" 13,	To 50 lbs. shorts,	55	
Mch. 8,	" 1 lb. sulphur,	05	
" 17,	" 10 lbs. lime,	10	
" 19,	" 1 bag of corn,	1 00	
" "	" 1 bag of oats,	1 00	
" 23,	" 10 lbs. oyster shells,	20	
March,	By 12 dozen eggs, at 30 cts.,		3 60
April,	" 15 dozen eggs, at 25 cts.,		3 75
Apr. 10,	To 1 pound sulphur,	13	
" "	" 5 hens and cockerel,	8 00	
" 15,	" L. Brahma eggs,	3 00	
" 23,	By 1 bushel hen manure,		35

May,	By 15 doz. eggs, at 18 1-3 cts.,		2 75
" 17,	To L. Brahma eggs,	4 50	
" 19,	" 1 bag of meal,	1 05	
June,	By 11 doz. eggs, at 22 8-11 cts.,		2 50
" 3,	To 1 bag of wheat,	1 80	
" "	" 1 bag of Ck. corn,	1 05	
" "	" 1 bag of Meal,	1 05	
July,	By 15 doz. eggs, at 25 cts.,		3 75
" 12,	To 1 bag of Ck. corn,	1 05	
" 12,	" 1 bag of meal,	1 15	
August,	By 12½ doz. eggs, at 30c.,		3 75
Aug. 15,	To 1 bag of corn,	1 15	
" "	" 1 bag of meal,	1 15	
" 17,	By 5 hens, sold,		2 12
Sept. 18,	To 1 bag cracked corn,	1 15	
" 20,	To 100 lbs. oyster shells,	85	
" "	" 1 bag corn,	1 10	
" 23,	By 11 pullets, at 50c.,		5 50
" 24,	" 2 cockerels,		2 65
Sept.	" 7¾ doz. eggs, at 30c.,		2 32
Oct. 7,	To 1 bag meal,	1 10	
" "	" 1 bag dessicated fish,	1 50	
" 9,	By 5 cockerels,		4 58
" "	" 6 Light Brahmas, at $1.25,		7.50
"	" 5 doz. eggs, at 39c.,		1 95
Nov. 7,	To 1 bag meal,	1 10	
" "	" 3 bags of corn,	3 30	
" 8,	By 4 chickens, sold,		4 14
Dec. 3,	" 3 chickens, sold,		3 50
1887.			
Jan. 8,	To 1 bag of meal,	1 10	
" 11,	" 1 cockerel,	5 35	
" 15,	" 2 pullets,	7 00	
" 17,	" 1 bag of wheat,	1 60	
Jan. 19,	By 9 chickens,		11 37
Feb.	" 5 eggs,		10
Mch. 2,	To 1 bag corn,	1 10	
" 14,	" 4 setters,	4 00	

Mch. 18,	To 2 setters,	2 00	
Mch.	By 26 Eggs,		50
Apr. 5,	To 3 setters,	2 50	
" 18,	By 1 setting of eggs,		3 00
"	" 20 eggs,		40
May 2,	To 1 setter,	75	
" 7,	" 1 bag of wheat,	1 70	
" "	" 1 bag of corn,	1 15	
" "	" 1 bag of meal,	1 15	
" "	" 20 lbs. lime,	20	
" 9,	" 3 setters,	1 35	
" "	" 1 bag of oats,	1 00	
" "	" 1 bag of barley,	1 40	
" 12,	" 2 setters,	1 50	
" 18,	By 6 setters,		2 00
May,	" 8 doz. eggs, at 22c.,		1 76
June 10,	To 1 bag meal,	1 15	
" 10,	" 1 lb. copperas,	05	
" 18,	" 10 lbs. lime,	10	
" 19,	By 5 setters,		3 20
" 20,	" 20 eggs for hatching,		2 00
June,	" 6 doz. eggs, at 22 and 25c.,		1 44
July 9,	To 1 bag of corn,	1 05	
" 18,	" 1 bag of meal,	1 05	
" "	" 1 bag of wheat,	1 75	
" 29,	By 4 bushels hen manure,		1 40
" "	" 1 hen,		30
July,	" 9¾ doz. eggs,		2 58
Aug. 29,	To 1 bag bolted meal,	1 25	
	By 8 eggs,		30
	Total,	$92 23	$88 86

STOCK ON HAND.

68 chickens, valued at $2.00,	$136 00
11 hens, valued at $2.00,	22 00
1 cock, valued at	5 00
Total,	$163 00

Credits,	$88 86
Total Credits,	$251 86
Expenses,	92 23
Net proceeds,	$159 63

NOTE.—His receipts for 59 head of stock, 81 weeks,	$49 26
" " " 129 doz. eggs, 81 weeks.	37 85
" " " 5 bushels hen manure,	1 75
Value of 80 head of stock, on hand Aug. 29, 1887,	163 00
Total,	$251 86

Value of original stock, 13 head, Feb. 8, 1886,	$13 00
Cost of feed, 81 weeks,	38 65
Cost of disinfectants,	63
Cost of eggs for breeding,	7.50
Cost of stock for breeding,	32 45
	92 23
Profit for 81 weeks, (average of $1 97 per week),	159 63
	$251 86

STATEMENT OF FRED H. WILEY, IN REPLY TO INQUIRIES BY THE SECRETARY.

Dear Sir:

I had eleven hens and two cockerels, eight of which were Plymouth Rocks, and three Leghorns. I valued them at $13. They were nothing but common hens.

I give my hens bolted meal, scalded, every morning, except in the summer months. At noon, different kinds of grain, such as wheat, oats, barley, and cracked corn; at night, about four o'clock in cold weather, and six o'clock in hot weather, I give them whole corn. I also give them fresh water twice a day. I clean off the roost boards every morning, and sweep down the cobwebs if there are any. To keep free from vermin, I kerosene the roosts, once a week, and I don't have any trouble with lice; this is the best remedy to keep lice away I know. I use air-slack lime in my nests. I raise my chickens with hens. I hatched out 75 chickens this year. I do not feed them until they

are twenty-four hours old, and then I give them boiled eggs and bread crumbs, the first two or three days. I give them chopped green grass every single day of their lives, because I have no chance for them to run on gras ground. I rake the grass from the lawn in summer, and dry it, and then in winter pour hot water on it and it turns green. The way I break up setters is, to put them in a slat coop that is set up off the ground, so that there will be a draft on all sides of them. They won't set long after they have been in there a while.

The value of the Light Brahma pure-bred stock I now have, is the market value of my hens and chickens. The reason I value the cock so highly, is, because when I bought him I paid $5, and I claim he is worth that to-day.

I was sixteen years old last February, the 28th day.

I keep oyster shells on hand for the hens, all the time, as they need them to make egg shells.

Yours respectfully,

FRED H. WILEY.

PLOUGHING WITH DOUBLE TEAMS.

The Committee on Ploughing, Double Teams, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$12. First premium, to B. H. Farnum, North Andover, for ploughing with Hussey's No. 16 plough.

E. G. Nason, J. W. Blodgett, G. W. Sargent, Abel Stickney, James Noyes—*Committee.*

PLOUGHING WITH SINGLE TEAM.

The Committee on Ploughing, Single Team, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to Washington Winslow, Hamilton, for ploughing with one yoke oxen, with Oliver plough.

Samuel S. Pratt, W. P. Fisher, Horace Ware—*Committee.*

PLOUGHING WITH HORSES.

The Committee on Ploughing with Horses have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to Moses D. Poor, W. Newbury, for ploughing with No. 106 Hussey plough.

$7. Second premium, to W. M. Bent, Danvers, for ploughing with Syracuse plough.

$5. Third premium, to Edwin A. Durkee, Peabody, for ploughing with No. 104 Hussey plough.

O. L. Carleton, Paul T. Winkley jr., Wm. H. Smith, Reuben Alley—*Committee.*

PLOUGHING WITH SWIVEL PLOUGH.

The Committee on Ploughing, Swivel Plough, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$12. First premium, to Solomon W. Weston, Middleton, for ploughing with one pair oxen, IXL. plough.

$10. Second premium, to Wilkins & Christopher, Middleton, for ploughing with one pair oxen, Barrows & Sargent plough.

$10. First premium, to Jonas Rollins, Danvers, for ploughing with one pair horses, Granger plough.

$6. Second premium, to James C. Poor, No. Andover, for ploughing with one pair horses.

C. N. Maguire, Ansel W. Putnam, Aaron Low, John A. Hoyt—*Committee.*

PLOUGHING WITH SULKY PLOUGH.

The Committee on Ploughing, Sulky Plough, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$8. Second premium, to J. E. Page, Salem, for work done by Cassidy plough.

$10. First premium, to Francis O. Kimball, Danvers, for work done by National Reversible plough.

J. J. H. Gregory, Samuel E. Marsh, Albert Emerson—*Committee.*

There were two entries: The Cassidy, by Mr. J. E. Page, of the Pickman farm, and the National Reversible, by Mr. Francis O. Kimball. The committee had a very interesting duty to perform, in comparing the work done by these two ploughs. Our judgment was that each of the ploughs did as good work in stony land, as would a common plough; that each turned under the sod, as a rule, and the Cassidy even better, than any single team plough on the ground. The National Reversible was evidently of easier draught than the Cassidy, for, though this was drawn by a heavier pair of horses which had worked all summer, they evidently labored harder than the smaller pair attached to the Reversible, while these latter ploughed on an average, a quarter deeper. The Reversible leaving no dead furrows, is an invention along the line of modern improvement in ploughs. On the whole, your committee was very favorably impressed by this new applicant for patronage, the "National Reversible," and would advise any fellow-farmer who finds himself with $55 to spare at the close of the season, to invest it in this plough, rather than put it in any savings bank, believing that when so invested it will pay a much larger interest than four per cent.

J. J. H. GREGORY, *for the Committee.*

AGRICULTURAL IMPLEMENTS.

The Committee on Agricultural Implements have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$5. First premium, to George E. Daniels, Rowley, for farm cart.

$5. First premium, to Dole & Osgood, Peabody, for grocery wagon.

$5. First premium, to H. P. Whipple, Peabody, for milk wagon.

$3. Gratuity, to E. L. Blake & Co., Peabody, for seed drills and weed hoes.

$3. Gratuity, to Robert Baker, Manchester, for patent ladder.

$1. Gratuity, to John Barker, North Andover, for O. K. harrow.

$5. First premium, to J. H. Smith, Peabody, for exhibition of horse shoes.

S. E. Marsh, J. A. Ilsley, J. J. H. Gregory—*Committee.*

AGRICULTURAL IMPLEMENTS.

There was, this season, a most striking poverty in the exhibit in the implement department. I cannot recall an exhibition so poor in numbers, in the experience of a quarter of a century. Still, this poverty in the exhibit is not to be wondered at, when we consider the great increase there has been of late years, in agricultural fairs. The result is inevitable, that some location must occasionally have but a poor show in this department, for the obvious reason that our great agricultural establishments cannot be present in force, everywhere, at the same time. It is obvious that the present season has brought our turn.

The striking novelty of the season, was Clark's "Cut-away Disk Harrow," exhibited by the Higanum Manufacturing Company. This differed from other disk harrows in having four pieces cut out of the disk, leaving them of about the shape of a Greek cross; by crossing two of our fingers in the middle, at right angle, we will get the idea. It was claimed that this new form would cut deeper into the soil, and free itself from lumps more easily than the standard pattern. The trial, made after the plowing match, appeared to well substantiate the first claim. I consider it an implement well worthy of the attention of farmers who need a disk harrow. There is one objection I have to it, in common with most of the disk harrows,—the ball and socket joint, *as sold with them.* Mind you, I have no ob

jection to the ball and socket system of forming a joint; in its easy and varied motion it cannot be surpassed,—but when made of a soft material, the ball, after rather a limited use, works its way out of the socket, as it has in my experience, in two instances, in this class of harrows (my harrows have but little rest), then my pocket-book, at the next purchase, pays for another style of joint,—and this I found in the Climax, which thus far has proved itself to be an excellent implement.

Blake's Improved Danvers seed drill, when used with care, no doubt is a good implement with which to plant onions and such other seed as do not tend to pack together, from the jarring caused by the movement of the machine while planting; but for use for many varieties of seed, it is defective, having only a shaking motion. This is not sufficient to keep some varieties of seed, carrot, for instance, if it is not perfectly cleaned, from packing together over the drop hole, and so clogging it.

One must have either the force feed or those machines which have a finger motion acting just over the drop hole, and by keeping the seed continually stirred, keeps them from clogging. The force feed implements are those which carry the seed in sunken depressions (which can be made more or less capacious by turning the screws which are at the bottom of them), around the circumference of a wheel, to a brush of bristle so arranged as to force them out.

The Sargent machine, used largely in the vicinity of Newbury, and the Willis machine, used in Arlington and vicinity, are good illustrations of this class. The Mathews seed drill is a good illustration of the agitator class. The latter I have used for small seed for many years, and am well satisfied with it.

It must be borne in mind, when using any implement, no matter how great its artistic excellencies may be, that a machine is but a machine, and its success or failure will always depend largely upon how much of brains the man who uses it presents it with. I have two men planting onion seed, side by side, and I can usually see plainly, throughout the season, the difference in the result.

There was a good exhibit of several styles of onion hoes, excellent for working between the rows, but there were none of the class which straddle the rows, weeding both sides at the same time. In some sections of New England, these are in common use, and there is certainly a good argument for them, in the fact that they save a good deal of hand weeding. I know it may be said that with the common slide, or wheel hoe, the results secured are the same, for though they do not weed each side of a row, they do weed one side of two rows. True, but the great advantage of the straddle hoe is, that they can be regulated to go as close to the row as we may find it for our advantage to go, and having each side of the row close under the eye, we can do closer work than with the common style of hoe, even when different widths are at hand. The Fuller weed hoe, Planet Jr., and Bridgeport hoe are examples of the straddle class; the Fuller differing from all others in the fact that the two hoes working close to the onions are always under complete control of the operator.

"The O. K. Steel Coulter harrow" is recommended as an implement that would cover manure remarkably well. That may be, and I think it likely, but to the eye it looks very like a Bastard Share harrow, a style that was in use about fifteen years ago.

This subject of agricultural implements is one of huge proportions, and, located as we are, in about the center of yankee ingenuity, it is one of great importance, and well worthy of more thorough attention than it has yet received. We have had excellent exhibitions of the various ploughs, and do have them every year at our annual ploughing matches, but how is it of cultivators, harrows, and weeding hoes? Has not agriculture advanced sufficiently among us, to have the importance of these implements more fully recognized? Every farmer in our county, who owns a plough, owns also a cultivator and harrow, and usually a seed sower and weed hoe. Should not our system of premiums recognize these, not only in the exhibition tent, as show implements, but in the work they will actually do?

To do this at its best, it would be necessary that they should be used among growing crops, and to witness this work, a mid-summer assembling would be necessary. At that time of the year all of us farmers are very busy,—but I believe that if a handbill should be issued by the society, giving the names of the different kinds of implements that would be tested, and the varieties of each kind, farmers would be so interested that quite a body would gather. I could contribute nearly a dozen varieties of onion hoes to such an exhibition. About half way between planting and haying, would be apt to find crops in their best condition, and farmers with the nearest approach to a leisure day.

J. J. H. GREGORY, *Chairman.*

CARRIAGES.

The Committee on Carriages have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

Diploma and $10 gratuity, to H. H. Pillsbury, Danvers, for goddard buggy.

$10. Gratuity, to Dole & Osgood, Peabody, for end spring buggy.

$10. Gratuity, to H. Whipple, Peabody, for carpet wagon.

R. M. Leach, Ira Foster, Edward Kent—*Committee.*

DAIRY.

The Committee on Dairy have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$10. First premium, to D. G. Tenney, Newbury, for 16 lbs. butter.

$8. Second premium, to Mrs. B. H. Farnum, No. Andover, for 7 lbs. butter.

$6. Third premium, to Mrs. Oliver Patch, Hamilton, for 14 lbs. butter.

John A. Putnam, Eldred S. Parker, Dudley Bradstreet—*Committee.*

STATEMENT OF D. G. TENNEY.

I present, for your inspection, sixteen lbs. of September butter, made from the milk of Native, Grade, Dutch, and Hereford cows. The milk is set in tin pans, and the cream taken off when the milk has soured. When churned, work out the buttermilk with hands, and salt to taste. The next morning, work again, and weigh into pound balls, and square with boards.

STATEMENT OF MRS. B. H. FARNUM.

I make my butter in the old-fashioned way. Churn twice a week; work out the buttermilk by hand. Have no ice, or milk cellar, nor any suitable place to keep my milk. This seven pounds of butter is a fair sample of my make for the past year. Use no coloring. It will keep in shape on a dining-table, the warmest day in summer, without ice. The past season has been unfavorable for making butter, on account of dull weather.

STATEMENT OF MRS. OLIVER PATCH.

I enter, for premium, fourteen pounds of butter, made last week, from the milk of two cows, partly Buffalo. The milk is skimmed, after standing thirty-six hours; adding a little salt to the cream, and stirring every day. When put into the churn, add a quart of cold water. Never use water after the butter comes. After taking from the churn, the buttermilk is thoroughly worked out, and butter salted, an ounce to a pound. The next day it is worked over again, ad made into pound lumps.

BREAD, HONEY, AND CANNED FRUIT.

The Committee on Bread, Honey, and Canned Fruit, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$3. First premium, to Mrs. Lyman S. Wilkins, Middleton, for white bread.

$2. Second premium, to Mary Morrison, Peabody, for white bread.

$1. Third premium, to Mrs. C. H. Goulding, Peabody, for white bread.

$2. First premium, to Mrs. J. F. Patch, Hamilton, for graham bread.

$1. Second premium, to Annie C. Horsch, Rowley, for graham bread.

$1. Gratuity, to Olivia J. Spencer, Peabody, for rolls and cake.

50c. Gratuity, to Mrs. E. A. Cole, W. Boxford, for brown bread.

50c. Gratuity, to Mrs. Erastus Ward, Peabody, for brown bread.

$3. Gratuity, to N. N. Dummer, Rowley, for display of prepared and cooked grains, from Glen Mills.

$3. First premium, to Mrs. A. Wilson, North Beverly, for jellies and canned fruits.

$2. First premium, to Mrs. A. C. Osborn, Peabody, for canned fruit.

SPECIAL PREMIUMS, OFFERED BY N. N. DUMMER, OF GLEN MILLS, ROWLEY, FOR GRAHAM BREAD MADE FROM "GLEN MILLS IMPROVED GRAHAM OR ENTIRE WHEAT FLOUR."

$5. First premium, to Mrs. J. F. Patch, Hamilton, for "Improved Graham Flour" bread.

$2.50. Second premium, to Annie C. Horsch, Rowley, for "Improved Graham Flour" bread.

$1. Third premium, to Mrs. George Z. Goodell, Salem, for "Improved Graham Flour" bread.

The exhibit of bread submitted for exhibition, and for premium, although not as large in amount as usual, was exceptionally good. In some instances, the rules of the society were not entirely complied with; for instance, the brown bread the society orders made with yeast (not commonly used now), and that exhibited was made without yeast in every case. In some of the wheat bread the rules

of the society were not *strictly* complied with in minor points, but were excused by your committee. In some cases the bread was entered too late, therefore, it had to be set aside. Gratuities were also given to some fine collections of rolls and cake which were sent in without statements.

The exhibit entered by N. N. Dummer, of Glen Mills, Rowley, of grains, cooked and uncooked, were full and very interesting.

Bees, Hives and Honey. In this department there was no honey entered. Bees and hives, without statements as to amount of honey made, or how the bees were cared for, were entered, and, therefore, could receive no premium. The exhibits of preserves and jellies were very small, and no exhibits of dried fruits or pickles were sent to this department.

Mrs. Charles B. Emerson, chairman, Mrs. W. L. Bowdoin, Amanda F. Low—*Committee.*

STATEMENT OF MRS. LYMAN S. WILKINS, FIRST PREMIUM WHITE BREAD.

Haxall flour, 3 pints; 1 pint of milk, ½ cup of yeast, 1 tablespoonful of lard, 1 tablespoonful of sugar, 1 tablespoonful of salt. Mixed with a spoon; not kneaded at all. Raised 5½ hours; baked 1 hour.

STATEMENT OF MARY MORRISON, SECOND PREMIUM WHITE BREAD.

1 quart of flour, ¼ teaspoonful of salt, ½ tablespoonful of sugar, 1-8 compressed yeast cake. One-half milk and one-half water. Knead twenty minutes.

STATEMENT OF MRS. J. F. PATCH.

Bread made from Glen Mills Improved Graham Flour,—put up by N. N. Dummer, Rowley, Mass.

Process of making: 1 quart graham flour, 1 teaspoonful salt, 1 large spoonful shortening, 1 large spoonful sugar, ½ cup potato yeast, 1 pint milk and water, mixed warm. Set

to rise over night; in the morning, knead, put in tins, and rise again one hour. Bake an hour and ten minutes, in moderate oven.

STATEMENT OF ANNIE C. HORSCH, SECOND PREMIUM.

Glen Mills Improved Graham Bread. At noon make a sponge of ½ Warner's yeast cake, about ½ pint warm water and flour. At night, take 1 pint of milk, 2 teaspoonfuls of salt, and 2 dessertspoonfuls sugar, with the sponge, and graham flour enough to stiffen. In the morning, mould about five minutes, put into tins, and raise; then bake 2 loaves.

STATEMENT OF MRS. A. WILSON, OF JELLIES.

Boil the fruit until tender, and strain through hair sieve and then through flannel bag. Add 1 pound of sugar to a pint of juice, and boil twenty minutes, and strain through muslin, into glasses.

STATEMENT OF MRS. ABRAHAM C. OSBORNE, CANNED FRUIT.

LADIES:—I enter, for premium, specimen of the several varieties of fruits and berries, canned by me, for family use. All of the fruits and berries were grown in our own garden; not a single one was obtained elsewhere. My method of canning is simple, as follows:—The pears are canned whole. It was formerly my practice to cut them in quarters, but recently, finding that they would keep just as long and well, canned whole, also, it being much less labor, I have adopted that method. Granulated sugar is used entirely by me, in canning. The quantity, one-half as many pounds as there are fruit or berries. I do not name this as a fixed rule for everyone to follow. People differ so much in their tastes, that it is almost impossible to have a general rule for everyone to adopt. Perhaps it would be a better and more satisfactory course to be pursued, for every one to sweeten to their taste. The rhubard, Black Naples currants and gooseberries are not sweetened when they are

canned. As they are used for so many different purposes, the sugar is not put in until they are wanted for use. More sugar was used for the crab apples and plums than any of the other varieties.

PEARS.

The Committee on Pears have attended to their duty and respectfully report to the Secretary that they have made the following awards:

$3. First premium, to Edwin Bates, Lynn, for 12 Bartlett pears.

$3. First premium, to A. Stickney, Groveland, for 12 Belle Lucrative pears.

$3. First premium, to D. A. Pettengill, Danvers, for 12 Beurre Bosc pears.

$3. First premium, to Samuel Spalding, Danvers, for 12 Beurre d'Anjou pears.

$3. First premium, to Edwin Bates, Lynn, for 12 Duchess d'Angouleme pears.

$3. First premium to B. F. Southwick, Peabody, for 12 Dana Hovey pears.

$3. First premium, to John O'Brien, Bradford, for 12 Lawrence pears.

$3. First premium, to Edwin Bates, Lynn, for 12 Louis Bon de Jersey pears.

$3. First premium, to A. J. Hubbard, Peabody, for 12 Maria Louise pears.

$3. First premium, to J. H. Hill, Amesbury, for 12 Onondaga pears.

$3. First premium, to B. R. Symonds, Salem, for 12 Paradise d' Automne pears.

$3. First premium, to D. A. Pettengill, Danvers, for 12 Seckle pears.

$3. First premium, to Amos Raddin, Peabody, for 12 Sheldon pears.

$3. First premium, to W. W. Perkins, Newbury, for 12 Urbaniste pears.

$3. First premium, to David A. Pettengill, Danvers, for 12 Vicar of Winkfield pears.

$3. First premium, to J. H. Hill, Amesbury, for 12 Beurre Langliera pears.

$3. First premium, to Edwin Bates, Lynn, for 12 Howell pears.

$3. First premium, to E. F. Webster, Haverhill, for 12 Beurre Hardy pears.

$3. First premium, to F. N. Carlton, Peabody, for 12 Beurre Clairgeau pears.

$1.50. Gratuity, to R. H. Brown, Peabody, for 12 Doy de Comice pears.

$1.50. Gratuity, to A. Stickney, Groveland, for 12 Goodale pears.

$2. Gratuity, to Edwin Bates, Lynn, for 24 Duchess de-Angouleme pears.

$2. Gratuity, to Edwin Verey, Salem, for 24 Buerre Bosc pears.

$1. Gratuity, to J. Lamson, Haverhill, for 24 Beurre Bosc pears.

$1. Gratuity, to C. B. Haven, Peabody, for 24 Seckle pears.

$1. Gratuity, to F. N. Carlton, Peabody, for 12 Beurre Bosc pears.

$1. Gratuity, to F. N. Carlton, Peabody, for 12 Onondaga pears.

$1. Gratuity, to F. N. Carlton, Peabody, for 12 Duchess de Angouleme pears.

$1. Gratuity, to C. B. Haven, Peabody, for 12 Seckle pears.

$1. Gratuity, to G. D. Walton, Peabody, for 12 Bartlett pears.

$1. Gratuity, to A. Raddin, Peabody, for 12 Lawrence pears.

$1. Gratuity, to A. Raddin, Peabody, for 12 Howell pears.

$1. Gratuity, to A. Raddin, Peabody, for 12 Beurre Clairgeau pears.

$1. Gratuity, to A. C. Osborn, Peabody, for 12 Crispin pears.

$1. Gratuity, to C. E. Brown, 2nd., Peabody, for 12 Beurre d' Anjou pears.

$1. Gratuity, to Edwin Bates, Lynn, for 12 Bosc pears.

$1. Gratuity, to Edwin Bates, Lynn, for 12 Sheldon pears.

$1. Gratuity, to J. W. Dodge, Danvers, for Dodge Seedling pears.

$1. Gratuity, to R. H. Brown, Peabody, for 12 Howell pears.

$1. Gratuity, to W. P. Hutchingson, Danvers Center, for 12 Beurre Clairgeau pears.

$1. Gratuity, to Walnut Farm, Essex, for 12 Sheldon pears.

$1. Gratuity, to S. Southwick, Peabody, for Pyramid of pears.

John R. Langley, Abraham C. Osborn, Peter M. Neal. George Pettengill—*Committee.*

There were 272 dishes of 12 specimens each, and 3 of 24 each. The Committee would recommend that there be no premium offered for 24 specimens, but that the amount of that premium be added to the gratuities to be given to 12 specimen dishes.* They also recommend that the Beurre Langlier be dropped from the list recommended for cultivation in Essex County, and that the Doyenem de Comice be added to the list.*

GEORGE PETTENGILL, *for the Committee.*

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*NOTE.—The Trustees at November meeting struck from the list, the premiums for 24 specimens of Pears, and Apples, and offer the amount for *Collection* of Pears and Apples. The Committees on Pears and Apples are already authorized to award $1.50 Premiums for any other varieties than those recommended, if deemed worthy of it. The recommendation in regard to the Beurre Langlier Pear was adopted.

D. W. LOW, *Secretary.*

APPLES.

The Committee on Apples have attended to their duty and respectfully report to the Secretary that they have made the following awards:

$3. First premium, to Simon P. Buxton, Peabody, for Hubardtson Nonsuch.

$3. First premium, to Thomas Sawyer, Boxford, for King of Tompkins County.

$3. First premium, to Wm. W. Perkins, Newbury, for Tolman Sweet.

$3. First premium, to Wm. W. Perkins, Newbury, for R. I. Greening.

$3. First premium, to Thomas Hale, Rowley, for Gravenstein.

$3. First premium, to Francis T. Marstin, Danvers, for Sweet Baldwin.

$3. First premium, to S. B. George, Groveland, for Hunt Russett.

$3. First premium, to D. Bradstreet, Topsfield, for Drap d'Or.

$3. First premium, to Wm. B. Little, Newbury, for Smith's Cider.

$3. First premium, to Monroe Bros., Lynnfield, for Danvers Winter Sweet.

$3. First premium, to J. Henry Hill, Amesbury, for Bailey's Sweet.

$3. First premium, to J. Henry Hill, Amesbury, for Granite Beauty.

$3. First premium, to J. Henry Hill, Amesbury, for Red Russett.

$3. First premium, to Wm. R. Kimball, West Boxford, for Porter.

$3. First premium, to Moses H. Poor, West Newbury, for Baldwin.

$3. First premium, to Joel L. Southworth, West Peabody, for Hurlburt.

$3. First premium, to David Warren, Swampscott, for Pickman Pippin.

$1.50. First premium, to Lyman S. Wilkins, Middleton, for Russian Crab.

$6. First premium, to Marcellus Janes, West Newbury, for best 24 specimens Hubardston Nonsuch.

$1.50. Gratuity, to William K. Cole, West Boxford, for William's Favorite (excellent).

$1. Gratuity, to Frank A. Whitman, Wenham, for Snow.

$1. Gratuity, to Frank A. Whitman, Wenham, for Unknown (very fine).

$1. Gratuity, to Thomas C. Thurlow, West Newbury, for 20 ounce Pippin.

$1. Gratuity to S. F. Newman, Newbury, for Drap d'-Or.

$1. Gratuity, to T. K. Bartlett, Newburyport, for Bradford Nonsuch.

$1. Gratuity, to W. P. Smith, Rowley, for Blue Pearmain.

$1. Gratuity, to Thomas P. Hale, Rowley, for Baldwin.

$1. Gratuity, to Thomas Hale, Rowley, for Spitzenberg.

$1. Gratuity, to Thomas Hale, Rowley, for Conn. Greening.

$1. Gratuity, to Wm. W. Perkins, Newbury, for Roxbury Russets.

$1. Gratuity, to Mrs. Dr. White, Danvers, for Hubbardston Non.

$1. Gratuity, to C. C. Blunt, Andover, for Strawberry.

$1. Gratuity, to Patrick Murphy, Peabody, for Osgood's Favorite.

$1. Gratuity, to S. W. Spaulding, Danvers, for Wealthy.

$1. Gratuity, to E. K. Lee, Essex, for Gravenstein.

$1.50. Gratuity, to S. Southwick, Peabody, for pyramid of assorted apples.

Geo. W. Chadwick, Thomas K. Leach, Joseph Howe, William B. Little, T. P. Hale—*Committee.*

PEACHES, GRAPES, AND ASSORTED FRUITS.

The Committee on Peaches, Grapes, and Assorted

Fruits, have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$3. First premium, to W. P. Hutchinson, Danvers, for Niagara grapes.

$3. First premium, to A. J. Hubbard, Peabody, for Concord grapes.

$3. First premium, to Geo. W. Gage, Methuen, for Worden's Seedling grapes.

$3. First premium, to S. M. Titcomb, West Newbury, for Brighton grapes.

$3. First premium, to Chas. E. Marsh, Lynn, for Hartford Prolific grapes.

$3. First premium, to W. P. Hutchinson, Danvers, for Delaware grapes.

$3. First premium, to C. B. Haven, Peabody, for Martha grapes.

$3. First premium, to W. P. Richardson, Danvers, for Moore's Early grapes.

$1.50. First premium, to Geo. D. Walton, Danvers, for Croton grapes.

$1.50. First premium, to W. P. Hutchinson, Danvers, for Prentiss grapes.

$6. First premium, to Aaron Low, Essex, for Cold House Black Hamburg grapes.

$4. Second premium, to Geo. W. Gage, Methuen, for Black Hamburg grapes.

50c. Gratuity, to C. B. Haven, Peabody, for Bush Orange quinces.

$2. First premium, to Miss Minnie A. Walton, Peabody, for peaches.

$1. Gratuity, to D. H. Southwick, Peabody, for Clinton grapes.

$1. Gratuity, to Rufus Goodwin, Ayer Village, Haverhill, for Concord grapes.

$1. Gratuity, to Rufus Goodwin, Ayer Village, Haverhill, for Delaware grapes.

50c. Gratuity, to A. C. Osborne, Peabody, for Pocklington grapes.

50c. Gratuity, to A. C. Osborne, Peabody, for Concord grapes.

50c. Gratuity, to Mrs. G. P. Osborne, Peabody, for Renia Claud plums.

50c. Gratuity, to Mrs. G. P. Osborne, Peabody, for Cole's Golden Drop plums.

$2. Gratuity, to E. F. Webster, Haverhill, for Orange quince.

$1. Gratuity, to Mrs. J. F. Farran, Salem, for Orange quince.

$1. Gratuity, to Samuel Cammett, Amesbury, for Martha grapes.

$1. Gratuity, to Geo. Pettengill, Salem, for Ives' Blood peach.

$1. Gratuity, to Edwin Verry, Salem, for White Flesh Essex County peach.

50c. Gratuity, to Edwin Bates, Lynn, for Lombard plums.

$1. Gratuity, to Mrs. W. O. Safford, Salem, for Yellow Egg plums.

$3. First premium, to Frederick Lamson, Salem, for collection of peaches.

$2. First premium, to Frederick Lamson, Salem, for Essex County Seedling peaches.

$2. First premium, to S. D. Rollins, Amesbury, for yellow flesh peaches, "Late Crawford."

$2. First premium, to Henry M. Meek, Salem, for white flesh peaches, "Stump of the World."

J. HENRY HILL, *Chairman.*

FLOWERS.

The Committee on Flowers have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

50c. Gratuity, to Joseph Symonds, Salem, for Asters.

50c. Gratuity, to Mrs. Geo. Reynolds, Peabody, for Cockscombs.

50c. Gratuity, to W. J. Walton, Salem, for 2 plates flowers.

$2. Second premium, to Miss E. M. Perley, Danvers, for collection Foliage Plants.

$3. Second premium, to Andrew Nichols, Jr., Danvers, for native plants, named.

$5. First premium, to Miss Mary W. Nichols, Danvers, for native plants, named.

50c. Gratuity, to Jessie F. Hapgood, Middleton, for Quilled Asters.

$1. First premium, to Agnes H. Hale, Rowley, for Zinnias.

$1. First premium, to Mrs. A. Raddin, So. Peabody, for 6 varieties of Dahlias.

$1. Gratuity, to Miss S. H. Newhall, So. Peabody, for Roses, and Sweet Peas.

$1. First premium, to Miss S. H. Newhall, So. Peabody, for 3 varieties of Roses.

50c. Gratuity, to Mrs. N. E. Ladd, Groveland, for Nasturtiums.

50c. Gratuity, to Mrs. H. M. Osborn, Peabody, for cut flowers.

75c. Gratuity, to Mrs. C. Marsh, Lynn, for Gladiolus.

$1. Gratuity, to Mr. S. Blaney, Peabody, for collection of Asters.

$1. First premium, to Mrs. Chas. Perley, West Boxford, for Calendulas.

$1. Gratuity, to Mrs. J. H. Hill, Amesbury, for Roses (tender).

$1. First premium, to Joseph Symonds, Salem, for 24 Asters.

$1. Gratuity, to Miss S. H. Newhall, So. Peabody, for collection.

$1. First premium, to Miss S. H. Newhall, So. Peabody, for 6 varieties of Verbenas.

$1. First premium, to Mrs. J. E. Page, Salem, for bouquet garden Flowers.

$1. Gratuity, to Mrs. W. W. Kimball, Lynn, for bouquet Wild Flowers.

$1. First premium, to Mrs. Wm. Perkins, Peabody, for Begonia.

$1. Gratuity, to T. C. Thurlow, W. Newbury, for Gladiolus.

$1. First premium, to T. C. Thurlow, W. Newbury, for Hardy Phlox.

50c. Gratuity, to T. C. Thurlow, W. Newbury, for collection.

50c. Gratuity, to P. M. Neal, Lynn, for Dahlias.

$1. First premium, to Mrs. S. P. Weston, Danvers, for Immortelles.

$1. First premium, to E. & C. Woodman, Danvers, for Carnations.

$1. First premium, to E. & C. Woodman, Danvers, for Geraniums.

$1. First premium, to E. & C. Woodman, Danvers, for Nasturtiums.

75c. Gratuity, to Miss M. F. Putnam, Danvers, for Wild Flowers.

$1. Gratuity, to Aaron Low, Essex, for Gladiolus.

$1. First premium, to Mrs. M. P. Nichols, Lynn, for Mourning Bride.

50c. Gratuity, to Mrs. Oscar Fellows, Peabody, for Pot Plants.

75c. Gratuity, to Mrs. M. E. Fuller, Middleton, for Wild Flowers.

50c. Gratuity, to Mrs. M. E. Fuller, Middleton, for Native Ferns.

$3. First premium, to G. W. Creesy, Salem, for Cut Flowers.

$2. Second premium, to Mrs. J. M. Ward, Peabody, for Cut Flowers.

Mrs. William S. Horner, Mrs. J. Henry Hill, Mrs. David Warren, Eben True—*Committee.*

VEGETABLES.

The Committee on Vegetables have attended to their duty, and respectively report to the Secretary that they have made the following awards:

$3. First premium, to David Warren, Swampscott, for Eclipse beets.

50 cts. Gratuity, to F. H. Appleton, Peabody, for Lima beans.

$2. First premium, to B. P. Ware, Marblehead, for nutmeg melons.

$2. Second premium, to B. Henry Wilson, Peabody, for savoy cabbages.

$3. First premium to B. Henry Wilson, Peabody, for Clark's No. 1 Potatoes.

$3. First premium, to Thomas C. Durkee, Peabody, for marrow squashes.

$2. Second premium, to Thomas C. Durkee, Peabody, for Brunswick cabbages.

$1. Gratuity, to Andrew Curtis, Peabody, for corn in milk.

$1. Gratuity, to Andrew Curtis, Peabody, for collection of squashes.

50 cts. Gratuity, to B. H. Taylor, Peabody, for Fottler's cabbages.

$1. Third premium, to L. G. Moulton, Peabody, for cranberries.

$3. First premium, to David Warren, Swampscott, for Essex Hybrid Squashes.

$3. First premium, to David Warren, Swampscott, for red cabbages.

$2. Gratuity, to David Warren, Swampscott, for Danvers onions.

50 cts. Gratuity, to Batchelder Farm, West Wenham, for Belle potatoes.

$1. Gratuity, to Batchelder Farm, West Wenham, for Winslow potatoes.

$1. Gratuity, to Batchelder Farm, West Wenham, for Carter's improved turnips.

$2. First premium, to A. F. Lee, Beverly, for short horn carrots.

50 cts. Gratuity, to J. E. Herrick, West Peabody, for Globe turnips.

$1. Gratuity, to Geo. Reynolds, Peabody, for herbs.

$1. Gratuity, to Geo. Reynolds, Peabody, for cabbages.

50 cts. Gratuity, to B. H. Taylor, Peabody, for Beauty of Hebron potatoes.

$3. First premium, to B. H. Farnum, N. Andover, for sweet German turnips.

$3. First premium, to A. P. Alley, Marblehead, for Marblehead squashes.

$3. First premium, to A. P. Alley, Marblehead, for Turban squashes.

$3. First premium, to A. P. Alley, Marblehead, for Danvers onions.

$2. Second premium, to A. P. Alley, Marblehead, for red cabbages.

50 cts. Gratuity, to Edwin Bates, Lynn, for Bay State squashes.

$3. First premium, to Edwin Bates, Lynn, for mangolds.

$3. First premium, to Edwin Bates, Lynn, for Long Orange carrots.

$3. First premium, to Edwin Bates, Lynn, for Livingston's tomatoes.

$3. First premium, to Edwin Bates, Lynn, for Hebron potatoes.

$1. Gratuity, to Wm. E. Sheen, W. Peabody, for collection of potatoes.

$3. First premium, to Richard Jaques, Newbury, for flat onions.

$1. Gratuity, to Richard Jaques, Newbury, for Short Horn carrots.

$3. First premium, to Richard Jaques, Newbury, for Dewing's beets.

$2. First premium, to E. C. Smith & Son, Rowley, for celery.

$3. First premium, to Aaron Low, Essex, for Early Sweet corn.

$1. Gratuity, to Aaron Low, Essex, for Bay State squashes.

50 cts. Gratuity, to Aaron Low, Essex, for White Spine cucumbers.

$3 First premium, to Aaron Low, Essex, for Essex Hybrid tomatoes.

$3. First premium, to Aaron Low, Essex, for collection tomatoes.

$1. Gratuity, to J. P. King, Peabody, for Danvers onions.

$3. First premium, to H. A. Stiles, Middleton, for Strap Leaf flat turnips.

50 cts. Gratuity, to J. O. Goodale, Peabody, for Crookneck squashes.

$3. First premium, to J. O. Goodale, Peabody, for Hubbard squashes.

$1. Gratuity, to J. O. Goodale, Peabody, for Victor squashes.

50 cts. Gratuity, to J. O. Goodale, Peabody, for Purple Top turnips.

$3. First premium, to J. O. Goodale, Peabody, for cauliflowers.

50 cts. Gratuity, to Issachar Foster, jr., Beverly, for pumpkins.

$3. First premium, to Philip Bushby, Peabody, for Danvers carrots.

50 cts. Gratuity, to Philip Bushby, Peabody, for parsnips.

50 cts. Gratuity, to Philip Bushby, Peabody, for Strap Leaf Purple Top turnips.

$3. First premium, to Richard Jaques, Newbury, for parsnips.

50 cts. Gratuity, to Rufus Goodwin, Haverhill, for Danvers onions.

$1. Gratuity, to Rufus Goodwin, Haverhill, for Seedling potatoes.

50 cts. Gratuity, to W. H. Cole, W. Boxford, for Early Sweet corn.

$3. First premium, to W. H. Cole, W. Boxford, for cranberries.

50 cts. Gratuity, to W. H. Cole, W. Boxford, for cauliflowers.

$2. Second premium, to W. H. Greenleaf, Salisbury, for cauliflowers.

$3. First premium, to S. F. Newman, Newbury, for Savoy cabbages.

$3. First premium, to S. F. Newman, Newbury, for Fottler's Brunswick cabbages.

$2. Second premium, to S. F. Newman, Newbury, for Stone Mason cabbages.

$3. First premium, to S. F. Newman, Newbury, for Red Globe onions.

$3. First premium, to E. & C. Woodman, Danvers, for Livingston tomatoes.

$1. Gratuity, to Joel E. Southwick, W. Peabody, for Turban squashes.

50 cts. Gratuity, to Wm. Barrett, Peabody, for Marrow squashes.

50 cts. Gratuity, to John J. Mason, Amesbury, for White Egg turnips.

$2. First premium, to John J. Mason, Amesbury, for water melons.

$3. First premium, to John J. Mason, Amesbury, for Ruta Baga turnips.

$1. Gratuity, to Nathan Bushby, Peabody, for Lima beans.

$2. Second premium, to W. H. Johnson, Essex, for cranberries.

50 cts. Gratuity, to Berton Putnam, Danvers, for Peanuts.

50 cts. Gratuity, to John Baker, Manchester, for Stone Mason cabbages.

$3. First premium, to Chas. W. Mann, Methuen, for Stone Mason cabbages.

$1. Gratuity, to Chas. W. Mann, Methuen, for Methuen Early Sweet corn.

$1. Gratuity, to Chas. W. Mann, Methuen, for Danvers carrots.

50 cts. Gratuity, to F. Buckminister, Methuen, for Queen of Valley potatoes.

50 cts. Gratuity, to Aaron Low, Essex, for Edmand's beets.

$1. Gratuity, to Porter's Market, Salem, for horn of plenty.

50 cts. Gratuity, to Amos S. Buxton, Peabody, for Queen of Valley potatoes.

$8. First premium, to Jas. J. H. Gregory, Marblehead, for collection of vegetables.

$6. First premium, to Chas. W. Mann, Methuen, for collection of vegetables.

B. F. Huntington, John M. Danforth, B. P. Pike, John Baker, Albert W. Howe—*Committee.*

B. F. HUNTINGTON, *Chairman.*

GRAIN AND SEED.

The Committee on Grain and Seed have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$1. First premium, to C. F. Webster, Haverhill, for 1 peck shelled corn.

$1. First premium, to Pickman Farm, Salem, for 1 peck barley.

$1. First premium, to Pickman Farm, Salem, for 1 peck rye.

$5. First premium, to B. H. Taylor, Peabody, for 25 ears Field corn.

$3. Second premium, to J. W. Yeaton, Georgetown, for 25 ears Field corn.

$2. Third premium, to Frank Witham, Middleton, for 25 ears Field corn.

$3. First premium, to B. H. Taylor, Peabody, for 25 ears Pop corn.

$2. Second premium, to Wm. A. Walton, Ipswich, for 25 ears Pop Corn.

$8. First premium, to J. J. H. Gregory, Marblehead, for 243 samples Field and Garden seed.

$5. Second premium, to Charles W. Mann, Methuen, for Field and Garden seed.

A large variety of seeds was exhibited by Morrison & Trask, of Peabody, which, not being grown in the county, could not compete for premiums. N. W. Edson & Co., of Peabody, covered their attractive "booth," containing samples of their goods, with trace corn, which the committee are glad to notice, both for its excellence and taste of arrangement.

Rufus Kimball, P. Albert True, W. H. Greenleaf—*Committee.*

GRAIN AND SEED.

Much might be written of the antiquity of seeds and grain, but where the seeds of some of our garden vegetables came from is likely to remain in doubt.

The potato, the most valuable and widely cultivated of esculent tubers, is a native of the elevated tropical valleys of Mexico, Peru, and Chili. It was unknown in New England until near the middle of the eighteenth century, although described by Gerard, in his *Herball*, in 1597, under the name of *Batata Virginiana.* It is allied to several powerful narcotics, such as tobacco, henbane, and belladonna, as well as to other esculents. In production, it exceeds that of any other esculent, yielding, according, to Humbolt, thirty times greater weight than wheat, on an equal amount of ground.

There is positive evidence that the radish was grown in the gardens of the Pharoahs, although it did not reach

England until about three hundred years ago, according to the reckoning of the London Standard. The children of Israel, when they loathed manna in the wilderness, remembered "the cucumbers, and the melons, and the leeks, and the onions, and the garlick," which they did eat in Egypt.

Most authorities agree that the many varieties of cabbage, cauliflower, turnip, etc., are natives of the temperate and cold regions of Europe and Asia, and they are believed to owe their parentage to the wild brassica of the cliffs and seashore, although, after their long cultivation, it is difficult to trace any semblance to the original.

The gourd is a native of Africa and Asia, perhaps, also, of America; and the squash, called edible gourd in England, and cultivated upon both continents long before the time of Columbus, probably had a hybrid origin.

The common spinach has been cultivated in this country for more than three hundred years. It was noticed in Turner's "Herbal," published in 1568, as "an herb lately found and not much in use." It is generally supposed to be a native of Western Asia, but no positive evidence of its origin can be had.

The tomato, now grown as an article of food in all warm and temperate climates, is a native of tropical America; and the garden lettuce, believed to have been introduced from Asia, is said to be traced from a wild plant, but the statement has never been satisfactorily corroborated.

The first mention of wheat occurs in the account of Jacob's sojourn with Laban (Gen. 30: 14). Egypt was celebrated for wheat, and it was plentiful in Syria and Palestine. Corn, as usually applied, is the generic name for all seeds used in making bread, and especially the seeds of cerelid. The grains and leaves of Indian corn (maize) have been found under the heads of Egyptian mummies, and it is supposed to be mentioned by Homer.

The offering in Lev. 2: 14, was of "green ears of corn dried by the fire, even corn beaten out of full ears."

The writer has been interested, during the past summer, in watching the growth of several hills of corn in the garden of Mr. John H. B. Grover, in Whiting street, Lynn. The stalks were very similar to those of the common field corn, raised by Essex County farmers, with the exception that a white stripe was shown in the centre of each leaf or lance. But the principal peculiarity was in the fact that no ear appeared, but the kernels grew upon the flower or tassel, forming a bunch on the top of each stalk, which yielded half a pint or more of hard white corn, about the size of pop-corn, and the kernels being of the same shape as that variety. The seed from which this corn grew was procured by a gentleman making a tour in the East. While in Egypt, a mummy was exhumed, and a quantity of corn was found in the coffin. The gentleman, finding that the corn was apparently in good condition, thought that perhaps it might germinate, and sent some of it to a friend in California, who, in turn sent a few kernels to a farmer by the name of Cisson, in New Jersey. Both the gentlemen who received the corn planted it, and were surprised that the kernels grew where the tassel forms on our native corn. It is believed that the mummy from which this corn was taken had been buried nearly four thousand years, and that it retained the power to germinate is truly wonderful. The corn raised this year, by Mr. Grover, was the second year's product of the seed sent from Egypt. The mummy was found twenty feet below the surface, the depth being accounted for, perhaps, by the drift of sand during the centuries. The facts as here related, concerning the finding of the seed and its history, were received directly from Mr. Cisson, and it seems that there can be no doubt of the correctness of the statements.

There is, undoubtedly, wheat now in the United States which sprang from seed taken from mummies which had

been buried four thousand years, but it will be surprising to many, to learn that "there is corn in Egypt" of such an age which will sprout and prove as productive as our native maize.

It is, undoubtedly, true that barley is more widely distributed than any other grain. Cultivated by the ancient Hebrews, Greeks, and Romans, it was a most important article of food in a remote antiquity. It is first mentioned in Exodus 9: 31,—"And the flax and the barley was smitten, for the barley was in the ear, and the flax was bolled." This grain is adapted to almost all climates, the Himalaya barley producing good crops at the height of 14,000 feet above the level of the sea. It has been the subject of song and humorous composition, and many a swain has sung,

"Here's health to the Barley Mow."

Oats are the "corn" of Scotland, and probably a development of the wild oat found in Europe, and now growing wild, and spreading over large tracts of land in California. It is a northern plant, though it does not reach so far north as barley, and degenerates very rapidly in hot southern summers. Its annual production in the United States has been as high as 3,000,000 bushels.

Rye, the annual production of which in the United States is estimated at 20,000,000 bushels, is grown in the largest quantities in Pennsylvania, New York, and Illinois. Less nutritious than wheat, it is nevertheless a wholesome grain. Its greatest use is for distillation of whiskey in the United States, gin in Holland, and *quass* in Russia. Its straw is more valuable than that of any other grain, and it thrives upon poor soil and in the higher latitudes of the temperate zone. It is mentioned in Exodus as "rie."

Beans have been cultivated in Asia and Europe since the earliest ages, and the many varieties used as food for men, cattle, and swine. In New England they have proved a profitable crop on dry and moderately rich soil.

Many other seeds should perhaps be included in this report, but its length suggests the wisdom of bringing it to a close.

RUFUS KIMBALL, *Chairman.*

COUNTERPANES AND AFGHANS.

The Committee on Counterpanes and Afghans have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$4.00. First premium, to Mrs. R. G. Nelson, Peabody, for silk quilt.
2.00. Second premium, to Miss Alice Patterson, Peabody, for counterpane.
2.00. Gratuity, to Mrs. C. E. Stone, Peabody, for silk quilt.
1.00. Gratuity, to Mary A. Brennan, Salem, for quilt.
1.00. Gratuity, to Mrs. Jacob Osborn, Peabody, for quilt.
.50. Gratuity, to Mrs. J. B. Shepard, Salem, for quilt.
.50. Gratuity, to Mrs. John Silk, Peabody, for quilt.
.50. Gratuity, to Mrs. C. P. Dodge, Beverly, for quilt.
.50. Gratuity, to Mrs. H. F. Marsh, Peabody, for quilt.
.50. Gratuity, to Mrs. S. W. Mackintire, Peabody, for quilt.
.50. Gratuity, to Mrs. Wm. Stimpson, Danvers, for quilt.
.50. Gratuity, to Mrs. Henry M. Ives, Salem, for quilt.
.50. Gratuity, to Mrs. E. W. Merrill, Salem, for quilt.
.50. Gratuity, to Mrs. Annie Gower, Salem, for quilt.
1.50. Gratuity, to Mrs. Emma French, Peabody, for two quilts.
.50. Gratuity, to Mrs. R. Jacobs, Peabody, for quilt.
.50. Gratuity, to Mrs. A. Gowing, Peabody, for quilt.
.50. Gratuity, to Mrs. John Moulton, Peabody, for quilt.

.50. Gratuity, to Mrs. M. L. Bodge, Peabody, for quilt.
.50. Gratuity, to Mrs. C. H. Tigh, Peabody, for quilt.
.50. Gratuity, to Mrs. I. E. Jackman, Peabody, for quilt.
.50. Gratuity, to Mrs. Mary A. Teague, Peabody, for quilt.
.50. Gratuity, to Mrs. J. L. Oliver, South Peabody, for quilt.
.50. Gratuity, to Miss Cora M. Bushby, Danvers, for quilt.
.50. Gratuity, to Mrs. Ernest A. Harriman, Peabody, for quilt.
.50. Gratuity, to Miss N. E. Fellows, Peabody, for quilt.
.50. Gratuity, to Mrs. Wm. Peck, Salem, for quilt.
.50. Gratuity, to Mrs. M. H. Stevens, Salem, for quilt.
.50. Gratuity, to Mrs. F. E. Green, Peabody, for quilt.
2.00. First premium, to Mrs. C. S. Goldthwaite, Peabody, for afghan.
1.00. Second premium, to Mrs. D. B. Lord, Peabody, for afghan.
1.00. Gratuity, to Mrs. Geo. H. Little, Peabody, for afghan.
1.00. Gratuity, to Mrs. Susan P. Newhall, Peabody, for afghan.
.50. Gratuity, to Miss Grace M. Cone, South Peabody, for afghan.
.50. Gratuity, to Mrs. Stephen Fernald, Peabody, for afghan.
.50. Gratuity, to Mrs. L. M. Balcomb, Peabody, for afghan.
.50. Gratuity, to Mrs. L. N. Putnam, Danvers, for afghan.
.50. Gratuity, to Mrs. J. S. Hodgkins, Peabody, for afghan.
.50. Gratuity, to Mrs. Jessie F. Barrett, Peabody, for afghans.

Mrs. O. L. Carleton, Chairman, Mrs. J. P. King, Mrs.

Charles O. Brooks, Mrs. Alonzo Raddin, Mrs. Edward W. Jacobs—*Committee.*

CARPETS AND RUGS.

The Committee on Carpets and Rugs have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

Diploma, to George Foan, Peabody, for 27 wool mats.

$3.00. First premium, to Mrs. J. Fairbanks, Salem, for rugs.

2.00. Second premium, to F. A. Perkins, Peabody, for rug.

2.00. Gratuity, to Mrs. E. D. Folsom, Peabody, for rug.

1.00. Gratuity, to Mrs. John Goldthwaite, Lynn, for rug.

1.00. Gratuity, to Miss I. L. Roberts, Salem, for rug.

1.00. Gratuity, to Mrs. W. Sleeper, Salem, for rug.

1.00. Gratuity, to Mrs. H. C. Torr, Peabody, for rug.

.50. Gratuity, to Mrs. John Torr, Peabody, for rug.

.50. Gratuity, to Mrs. Samuel Trask, Peabody, for rug.

.50. Gratuity, to Mrs. Ira Foster, Peabody, for rug.

.50. Gratuity, to Mrs. Samuel Ferguson, Peabody, for rug.

1.00. Gratuity, to Miss Jane L. Stevens, Peabody, for rug.

1.00. Gratuity, to Mrs. Frank Witham, Middleton, for rug.

1.00. Gratuity, to D. B. Lord, Peabody, for rug.

1.00. Gratuity, to Henrietta Pushee, Beverly, for rug.

1.00. Gratuity, for rug.

2.00. Gratuity, to B. F. Calley, East Saugus, for rug.

2.00. Gratuity, to Mrs. Abbie Wallace, Salem, for rug.

1.00. Gratuity, to Mrs. L. P. Burbank, Salem, for rug.

1.00. Gratuity, to Mrs. Robert Hamilton, Salem, for rug.

1.00. Gratuity, to Mrs. S. T. Stoddard, Peabody, for rug.

1.00. Gratuity, to Mrs. H. A. Begg, Peabody, for rug.

.50. Gratuity to Mrs. Geo. E. Dodge, Peabody, for rug.

.50. Gratuity, to Mrs. Annie Gower, Salem, for rug.

.50. Gratuity, to Mrs. Wm. Pack, Salem, for rug.

Nancie T. Morrison, Sarah P. Cogswell, Mrs. N. E. Ladd, Andrew Nichols—*Committee.*

ARTICLES MANUFACTURED FROM LEATHER.

The Committee on Articles Manufactured from Leather have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$5.00. First premium, to Charles McTurner, Danvers, for team harness.

5.00. First premium, to H. H. Pillsbury, Danvers, for carriage harness.

5.00. First premium, to H. H. Pillsbury, Danvers, for express harness.

3.00. Gratuity, to Herbert Gardner, Peabody, for double harness.

2.00. Gratuity, to Herbert Gardner, Peabody, for express harness.

3.00. Gratuity, to Charles P. Spencer, Salem, for exhibit.

2.00. Gratuity, to J. W. Dane & Co., Salem, for carriage harness.

2.00. First premium, to G. H. Flint, Danvers, for youth's shoes.

G. W. Clapp, E. C. Foster, W. H. Foster, Samuel Trask —*Committee.*

MANUFACTURES AND GENERAL MERCHANDISE.

The Committee on Manufactures and General Merchandise have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

Diploma, to Charles F. Curwin, Salem, for water motor.

Diploma, to Alfred Taylor, Peabody, for soap.

Diploma, to J. H. Smith, Peabody, for horse shoes.

Diploma, to Peabody Reporter, Peabody, for printed cards.

Diploma, to Standard Thermometer Co., Peabody, for Standard thermometers.

Diploma, to J. R. Fogg, Amesbury, for weather and door strips.

Diploma, to G. H. Little, Peabody, for articles of brass manufacture.

Diploma, to Willey & Poor, Peabody, for kip and split leather.

Diploma, to L. B. Southwood & Co., Peabody, for finished sheep skins.

Diploma, to F. Osborn, jr. & Co., Peabody, for kip and split leather.

50 cts. Gratuity, to B. F. Calley, East Saugus, for pop corn sheller.

$1.00. Gratuity, to G. L. Richardson, So. Peabody, for hen fountain.

50 cts. Gratuity, to Francis A. Lane, Peabody, for balls, and wooden chain.

50 cts. Gratuity, to Mrs. A. K. Blackingston, Rowley, for two pairs knit mittens.

William Hilton, Chairman, Dean A. Perley, Osman Babson—*Committee.*

FANCY WORK AND WORKS OF ART.

The Committee on Fancy Work and Works of Art have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

.50. Gratuity, to Nellie E. Skinner, Salem, for painting.

$1.00. Gratuity, to Mrs. W. F. Chapple, Salem, for clayoid work.

1.50. Gratuity, to Nellie A. Magoon, Danvers, for cattle piece.

1.00. Gratuity, to Alice M. Bushby, Peabody, for three oil paintings.

.75. Gratuity, to Henry H. Buxton, Peabody, for crayon pictures.

.50. Gratuity, to Mrs. Chas. O. Stone, Peabody, for oil painting.

.50. Gratuity, to Mrs. Mary D. Bomer, Peabody, for knit edging.

.75. Gratuity, to Mrs. C. C. Roberts, Salem, for night dress.

.50. Gratuity, to Mrs. D. P. Grosvenor, Peabody, for basket hood shirts.

1.50. Gratuity, to Lillie M. Little, Newburyport, for bureau scarf.

1.50. Gratuity, to Anna R. Thacher, Peabody, for crayons.

1.00. Gratuity, to Percy Grosvenor, Peabody, for oil paintings.

.50. Gratuity, to Mrs. R. G. Nelson, Peabody, for sofa pillow.

.50. Gratuity, to Alice Nelson, Peabody, for sea moss pictures.

.50. Gratuity, to Ora Dow, Danvers, for piano cover.

.75. Gratuity, to Henry H. Buxton, Peabody, for wood carving.

.50. Gratuity, to Mrs. C. C. Teague, Peabody, for banner.

.50. Gratuity, to Mrs. C. A. Warner, Peabody, for banner.

1.00. Gratuity, to Mrs. E. W. Jacobs, Peabody, for paintings.

.50. Gratuity, to Mr. C. A. Sanger, Peabody, for laundry work.

.50. Gratuity, to Alice H. Berry, Peabody, for painting golden-rod.

.50. Gratuity, to Mrs. Howard Bott, Peabody, for toilet set.

.50. Gratuity, to Mrs. Lucretia Hildreth, Salem, for netted tidy.

1.25. Gratuity, to Mrs. A. P. Newhall, Lynn, for tray and corn cloths.

1.00. Gratuity, to Nellie M. Morrill, Peabody, for scarf, banner and pottery.

.50. Gratuity, to William Cheever, Danvers, for pillow cases.

.50. Gratuity, to Mary A. Forness, Peabody, for bureau scarf.

.50. Gratuity, to Nellie O'Brien, Peabody, for tidy.

.50. Gratuity, to Mrs. S. R. Osborn, Peabody, for shoulder cape.

.50. Gratuity, to Mary Walton, Peabody, for Mexican work.

.50. Gratuity, to Alice Stoyle, Peabody, for four drawings.

.50. Gratuity, to Mr. S. Lord, Peabody, for bureau scarf.

.50. Gratuity, to Mrs. D. P. Grosvenor, Peabody, for hand bag.

1.00. Gratuity, to Mrs. A. L. Robson, Salem, for oil painting.

1.50. Gratuity, to Mrs. W. H. Hall, Peabody, for oil painting.

1.00. Gratuity, to Lizzie Hall, Peabody, for Mexican work.

.50. Gratuity, to Mrs. W. Simonds, Lynn, for Swedish tidy.

.50. Gratuity, to Mrs. Ruth Clavridge, Peabody, for stockings.

.50. Gratuity, to Hattie Buxton, Peabody, for painting in oil.

.50. Gratuity, to Mrs. Edward Paige, Peabody, for placque.

.50. Gratuity, to Mary Lynch, Peabody, for sofa pillow.

.50. Gratuity, to Mary Lynch, Peabody, for table cover.

.50. Gratuity, to Mrs. W. C. Reade, Beverly, for oil painting.

1.00. Gratuity, to James F. Callahan, Peabody, for fancy table.

.50. Gratuity, to May Herrick, West Peabody, for handkerchief.

1.50. Gratuity, to Carrie Lummus, Peabody, for set of table mats.

1.25. Gratuity, to Miss M. O. Barrett, Peabody, for pen sketching.

.50. Gratuity, to S. B. Mansfield, Peabody, for placque.

.50. Gratuity, to Mrs. J. H. Tibbetts, Peabody, for worked suspenders.

.50. Gratuity, to Mrs. Henry Wilkinson, Peabody, for Mexican work.

.50. Gratuity, to Vienna A. Batchelder, Peabody, for knitted lace.

.50. Gratuity, to Mrs. James P. King, Peabod , for carriage blanket.

.50. Gratuity, to Mrs. H. H. Campbell, Peabody, for cypress vase and lamp.

.50. Gratuity, to Miss A. Moulton, West Peabody, for crochet trimming.

1.50. Gratuity, to Clara B. Crossman, Swampscott, for paintings and easel.

.50. Gratuity, to Fred Tigh, Danversport, for carved clock case.

.50. Gratuity, to Mrs. Alice Stanwood, Salem, for paper flowers.

2.00. Gratuity, to N. W. Starbird, Danvers, for photographs.

.50. Gratuity, to Miss A. C. Symonds, Salem, for table top.

.50. Gratuity, to Miss A. C. Symonds, Salem, for oil painting.

1.00. Gratuity, to Annie Symonds, Peabody, for oil paintings.

.50. Gratuity, to Annie Tibbetts, Peabody, for table scarf.

.50. Gratuity, to Abbie Symonds, Peabody, for foot rest.

.50. Gratuity, to Mrs. J. B. Palmer, Peabody, for vase.

.50. Gratuity, to Mrs. J. B. Palmer, Peabody, for rose jar.

.50. Gratuity, to Jennie Verry, Salem, for oil painting.

.50. Gratuity, to Mrs. C. E. Stone, Peabody, for tidy.

.50. Gratuity, to Mary A. Tigh, Peabody, for table top.

.50. Gratuity, to Lizzie Baxter, Beverly, for set of tidies.

.50. Gratuity, to Malinda Webster, Peabody, for pillow cases.

Mrs. Wm. A. Gorton, Mrs. D. P. Grosvenor, Mrs. Charles Perley—*Committee.*

With few exceptions the works exhibited were considered by the committee as worthy of notice, but as the amount placed at their disposal was limited to $50, gra-

tuities could not be awarded upon every article. Several articles exhibited came too late to be entered for competition, some of which were among the most meritorious of the exhibits. Of these may be especially mentioned two oil paintings, a figure and a fruit piece, by Miss Susie Poor, and several paintings by Mrs. Riddle, one of which, a study of chrysanthemums, was especially fine.

The "New Complete Tailor System," exhibited by the agent, Mr. J. H. Taylor, seemed very well adapted to the use of those who do their own dress-making, as it is simple, accurate and inexpensive. The committee feel that some explanation of their delay in the announcement of awards is proper, and desire to say, that had they been supplied with sufficient cards upon the first day of the fair,* the announcements would have been made in due season.

For the committee,

M. E. GORTON.

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*The Premium Cards were duly provided and were in charge of Superintendent of Hall at opening of fair. D. W. Low, Secretary.

WORK OF CHILDREN UNDER TWELVE YEARS OF AGE.

The Committee on Work of Children under Twelve Years of Age have attended to their duty, and respectfully report to the Secretary that they have made the following awards:

$3.00. First premium, to Miss Lizzie Goldthwait, Peabody, for afghan.

2.00. Second premium, to Marian Appleton, Peabody, for water colors.

1.00. Gratuity, to Jenny F. Nichols, Peabody, for patch work quilt.

1.00. Gratuity, to Willie E. Gilson, Peabody, for oil painting.

.50. Gratuity, to N. Elva Fellows, Peabody, for scarf.
1.00. Gratuity, to Daniel Lord, Peabody, for bag.
1.00. Gratuity, to Emily N. Longfellow, Groveland, for tidy.
1.00. Gratuity, to Gertrude E. Wilkins, Middleton, for variety of fancy and plain work.
.50. Gratuity, to Clara M. Trask, Peabody, for plain sewing.
.50. Gratuity, to C. Lena Wilkins, Middleton, for patchwork.
.50. Gratuity, to Hattie F. Pushee, Beverly, for tidy.
.50. Gratuity, to Annie W. Lovett, Beverly, for tidy.
.50. Gratuity, to Sadie Estes, Peabody, for gypsy kettle.
.50. Gratuity, to Gertie W. Carleton, Rowley, for tidy.

The number of entries was twenty-one, by fourteen different children. After awarding the first and second premiums, the committee thought it proper to award a small gratuity to each of the other contributors, as an encouragement to them to persevere in industry.

Mrs. N. W. Starbird, Chairman, Mrs. Mary E. Fuller, Mrs. Amanda F. Low—*Committee.*

IMPROVING WET MEADOW AND SWAMP LANDS.

To the Trustees of the Essex Agricultural Society :—

The committee on the improvement of wet meadow and swamp lands have attended to their duty and submit the following report :—

There was but one entry made to your committee, that of Mr. Luther P. Tidd, of Georgetown. Mr. Tidd has complied with the rules of the society, his experiment including two years' time, and the accompanying statement will show the result, and the cost of producing it, and from what your committee saw at their two visits to the meadow, we should think the statement of Mr. Tidd was

entirely reliable and strictly true, and your committee would recommend that the premium of fifteen dollars ($15) be awarded to Mr. Luther P. Tidd of Georgetown.

Signed. O. S. BUTLER,
GEO. S. PERRY,
CHARLES HAZELTINE.
Committee.

STATEMENT OF LUTHER P. TIDD.

The piece of land that I have entered for premium contains one acre and one hundred and fifty-three and one-half rods. It was soft bog meadow and produced a crop that was worth little or nothing more than the cost of making. It was worth not over six dollars an acre. From a bank a few rods from the meadow, was carted two thousand loads, composed of sand, gravel and loam. Ten cords of common stable manure were spread on the lot, and harrowed in. The 15th of July, 1885, it was sown with grass seed, and harrowed in with a brush harrow and roller.

Last year, 1886, from the above described lot, was cut, by the estimate of good judges, seven tons of hay, besides one ton rowen or second crop. The year 1887, was cut, by estimate, three and one-half tons of hay, and one ton rowen.

EXPENSES.

Carting two thousand loads gravel,	$180 00
Ten cords manure, at $7 per cord,	70 00
Grass seed,	5 00
Sowing, harrowing, and rolling in the grass seed,	5 00
Value of the land previous to reclaiming,	12 00
Cost of cutting and curing the hay of 1886,	24 00
Cost of cutting and curing the hay of 1887,	13 50
	$309 50

Present value of the land,	$200 00
Crop of 1886, seven tons first crop,	126 00
One ton rowen or second crop,	12 00
Crop of 1887, three and one-half tons first crop,	63 00
One ton rowen,	12 00
Total,	$413 00
Deduct expense,	309 50
Balance,	$103 50

LUTHER P. TIDD, Georgetown, Mass.

Oct. 1, 1887.

NOTE.—Production and previous value of Land, per acre,	$210 72
Expenses and present value of land, per acre,	157 92
Profit per acre,	$52 80

IMPROVING PASTURE AND WASTE LANDS.

The Committee on Improving Pasture and Waste Lands have had but one application for premium. This was by Charles W. Mann, of Methuen, for improving "Waste Land."

The notice to the Committee came July 1, when it was the most busy time with farmers, making it impracticable to inspect the land with crops, at that time. The chairman notified the committee to meet at Mr. Mann's, Aug. 26th. But one besides the chairman, was present.

Mr. Mann's statement annexed, explains the condition of the land previous to his work on it. It was the same as a great deal of pasture in Essex County, with the added advantage of being naturally of strong, moist soil, with a hard subsoil, thus retaining all that is put on to it. Being a moist hill it can be relied upon to carry through, in adverse seasons of wet or dry, the crops put upon it. Thus it will be seen that it is desirable land to improve, and once reclaimed, becomes valuable to the farmer.

There are many such lands in Essex County, that might be profitably reclaimed, and your committee regret the evident lack of enterprise on the part of farmers in this direction, from the fact that so few applications are made for premiums, under this head.

Mr. Mann, with his characteristic energy and prudence, started with the determination to make it pay. While his statement of expense and returns thus far, is not as definite as might be desired, he is confident that it has been a profitable venture. He has had the advantage over many farmers, in an available market for the stones taken from the land. Mr. Mann has in mind still more thorough working of this land. Your committee felt that while great improvement had been made, the condition of the land was not up to the standard demanded by the society, for its first premium, but would recommend the second premium of $10.

WM. B. CARLETON, *Chairman.*

To the Committee on Improving Waste Lands:

The field which I enter for premium for "improving waste lands" is about ten acres in extent, on the westerly side of a high hill, and was all in pasture when I began to work on it three years ago, and about six acres of it was as rough and rocky as most any land in our county, and a part of it covered with a vigorous growth of alders; altogether it might have kept one cow alive through the summer.

I have cleared off all the alders and other trees, and cleaned out the stone to the amount of over one thousand perch, or two thousand tons, and teamed them to market in Methuen and Lawrence, distant two and three miles. The stone sold have just about paid for the work of reclaiming, and the crops this year have been two one-horse loads of oat fodder, eleven loads of Hungarian, seven loads of good hay, at least five bushels of beans, and now

there are ten thousand cabbage still growing (Oct. 10), or partly sold, all of which goes to show that it is still practicable, and also profitable, to take hold of the rough parts of our Essex County farms, if near market, and a man has grit enough to try it, and beside the more practical view of the achievement comes the pleasure of subduing the "wilderness" and making it bring forth its hidden beauties and possibilities.

It would be almost, or quite, impossible for me to give a detailed account of expenses and receipts with this field, as it is only a part of the work I undertook, but the stone were sold for from 80 cents to $1.50 per perch (25 cubic feet), and have paid for the clearing of the land, or very nearly so, leaving the crops produced to pay for work of cultivation and fertilizers as with older fields.

CHAS. W. MANN.

UNDERDRAINING LAND.

The Committee on Underdraining of Lands would make the following report:

We are sorry to state that there has been but one entry, that made by Charles W. Mann, of Methuen. The past summer has been an uncommonly good one to test the efficiency of underdrains, as very heavy and continuous rains have prevailed to an unusual extent.

At the time of our visit, August 26, after one of those rains, we found the drains working well. The land underdrained was naturally cold and wet, with a fall of about four feet to a brook on its easterly side. We found it dry and solid or firm, while upon the other side of the brook where not drained, it was quite wet and miry. We think he has well earned the first premium of $15, and would award it to him. We saw a good crop of onions upon it.

Andrew Nichols, James Noyes, Frank P. Todd—*Committee.*

STATEMENT OF CHARLES W. MANN.

To the Committee on Underdraining:

The piece of land I enter for premium contains one acre, and has never grown a crop worth fifty dollars, previous to this season, on account of its wet and soggy condition. The soil is a heavy black loam, about a foot deep, with a foot to two feet of hard clayey subsoil underlying it, and beneath the latter a sharp gravel or coarse sand. Along one side of the piece runs an open brook which has been lowered to the depth of three and one-half feet; on the opposite side from the brook a ditch was dug the whole length of the piece, and across the lower end to connect with the brook, and ten cross drains were also put in at about forty feet apart, and at a depth of three feet, running from the long drain to the brook. The drains were laid with hard pine boards well filled with oil, taken from the floors of the old Washington Mills in Lawrence, laid so as to make an open channel, perhaps six by ten inches, then covered with small stones, and the soil returned. The drains were dug deep enough to go below the clay into the sand or gravel, and would have been useless if only two feet deep, instead of three feet, but two or three hours after one of the heaviest showers this season, would find no water standing on the surface, while every drain was doing good work.

The cost of draining was,

Eighty-two days' work, at $1.25,	$103 00
Boards,	10 00
	$113 00

This year's crop was 300 bushels of good onions, worth at least $250, and the ground is now in condition for fine crops in years to come. It would be hard for the committee, or any stranger, to fully realize the change in this piece of ground from the wet meadow that at times was too soft for a team to cross it, to the mellow garden it now is.

GRAIN CROPS.

The Committee on Grain Crops regret to report but one entry for the society's premiums, that of R. Frank Dodge, of Wenham, on his crop of Indian corn, and we award to him the first premium $10.

Mr. Dodge's crop was viewed September 12, and the committee were pleased to see so fine a field of corn, and such evidences of clean and careful culture. Scarce a weed was seen; not a missing hill was noticed. The crop was remarkably even, with few barren, and no overgrown, unripe stalks seen.

We emphasize the regret first expressed, for we feel that far too little attention is given to the grain crops of old Essex, and trust that more attention will be given them in the future.

Respectfully submitted,

William Little, Aaron Low, Charles J. Peabody—*Committee.*

STATEMENT CONCERNING A CROP OF INDIAN CORN, RAISED BY ROBERT FRANK DODGE, IN THE TOWN OF WENHAM, MASS., 1887.

Gentlemen:

The land upon which my corn was raised had been in grass for several years. The crop of 1885 was English hay, about 1500 pounds per acre. No manure was used. The hay of 1886 amounted to about 1200 pounds, with no manure. The soil is dark loam, and is seldom affected by drought. Plowing was done May 11, six inches deep. Barn manure was spread after plowing, twenty-five loads of thirty bushels each, and harrowed in. Value of manure $2 per load. Cost of plowing and harrowing, $8. Used 500 pounds of fertilizer in the hills, at a cost of $10. Planted the field May 14, by hand, using one peck of eight-rowed yellow corn, with hills three and one-half feet apart. Cost of planting, $4. Cultivated twice each

way, and hoed by hand twice. Cost of both, $5. Corn was cut and stooked Sept. 21. Of the twenty-six rows contained in the acre, eighteen have been husked and found to yield 140 bushels of ears of corn. Allowing the remainder of the field the same average, it gives me 202¼ bushels, nearly, of corn in the ear, and at least three tons of well-cured fodder.

I have shelled some of the corn, and from seventy pounds of corn in the ear obtained fifty-six pounds of shelled corn. This gives a little more than 101 bushels of shelled corn from the acre.

COST OF CROP.

Barn manure,	$50 00
Fertilizer,	10 00
Plowing and harrowing,	8 00
Seed and planting,	4 00
Cultivating and hoeing,	5 00
Harvesting,	12 00
	$89 00
Allowing half value of manure to remain in ground,	30 00
Total cost per acre,	$59 00

ROBERT FRANK DODGE, Wenham, Mass.

I hereby certify that I have measured one acre of land, planted to corn, for Robert Frank Dodge, of Wenham, to be entered for premium with Essex Agricultural Society.

R. E. DODGE, Wenham.

Oct. 22, 1887.

This is to certify that I have weighed and measured the 140 bushels of corn already husked, raised by Robert Frank Dodge, of Wenham, and entered for premium.

FRANCIS S. LOVETT, JR.

Oct. 1887.

REPORT OF COMMITTEE ON ROOT CROPS.

The Committee chosen to examine the Root Crops entered for premiums of Essex Agricultural Society, have attended to that duty, and respectfully submit the following, for 1887:

$10. First premium, to Robert Frank Dodge, Wenham, for potato crop.

$10. First premium, to John H. George, Methuen, for onion crop.

$10. First premium, to Charles W. Mann, Methuen, for cabbage crop.

$10. First premium, to David Warren, Swampscott, for squash crop.

$10. First premium, to James P. King, Peabody, for Ruta Baga turnip crop.

NATHANIEL T. KIMBALL, *for Committee.*

There have been in all eleven entries, from eight different competitors:

Robert Frank Dodge, Wenham, two lots potatoes. John H. George, Methuen, onions. Charles W. Mann, Methuen, onions and cabbages. W. Smith & Co. Methuen, turnips and squashes. Rufus Goodwin, Ayers Village, Haverhill, for potatoes. J. E. Page, Superintendent of Pickman Farm, Salem, cabbages. David Warren, Swampscott, squashes. James P. King, Peabody, turnips.

Your committee were wisely selected from different sections of the county, and by an agreement among themselves those in the different parts were specially called upon to examine the crops near them. It is sometimes very difficult to secure the presence of a committee of six at any and all points of our county, so this arrangement was made.

One member of our committee we have not had the pleasure of seeing at any meeting, though he has been notified several times, of time and place to meet. There-

fore, let it be added just here, that if any member of a committee elected is not inclined to serve, it would be, in our judgment, a kindness to notify the secretary of the society, so that the committee may be apprised of the fact, and govern themselves in view of it. Two or more of your committee, however, have, in every instance, personally seen the crops entered for society premiums.

It would be a favor if every party who designs to enter any crop, would notify, as early as possible in the season, of this fact; and name the date, as near as possible, when he would like to have the committee see the crop.

All of those who have been upon this committee, and have taken part in its work this year, agree with those who have served upon it in other years, that, though considerable time and expense are involved, they have been well paid. The compensation comes from personal contact with some of the most enterprising of our farmers and our best men; from the opportunity of a closer inspection of their varied work than we could otherwise have; and from the uniformly social and cordial reception given.

Mr. Robert Frank Dodge, of Wenham, entered two lots of potatoes, Early Rose, and Clark's No. 1. But when he was visited by the committee a blight seemed to show itself upon the Early Rose, and he withdrew this lot from competition and no return was made from it.

The other lot promised more, and though the potatoes were not the largest in size, they averaged well, and were very smooth, and seemed to show no indication of rot. This crop was raised upon land planted last year with corn. Mr. Dodge does not omit the prerequisite to large crops,—proper care and plenty of fertilizers.

From Wenham we went to the Pickman Farm, Salem, and visited Mr. J. E. Page, superintendent, who entered a half acre of cabbages. It was about one o'clock P. M. when we arrived. Though a little late for a farm house dinner, we regaled ourselves upon the grass under the

beautiful, wide-spreading shade trees in the yard, looking at a magnificent field of cabbage for but few moments, when we were invited to partake of a very bountiful and complete dinner. We had further proof that some of the ladies of Essex county understand the art of cookery, even if the men do not fully know all there is to understand about farming. After dinner was served, we went with Mr. Page to look more carefully at the cabbage yard. The half acre which he had selected and entered, was very promising. There were but very few vacant spaces and but rarely a plant which showed the least sign of defect. We regret exceedingly that the return statement was not sent in so that the committee could pass upon it at the meeting of the trustees, Nov. 15, when Dr. Loring, proprietor of the Pickman Farm, moved to withdraw the crop. The statement was only taken from the post office when the chairman of your committee returned from that meeting. Mr. Page showed us a fine barn full of hay, and one of the stoutest crops of ensilage corn you often see, and the farming utensils all in order. We shall not soon forget our visit at Dr. Loring's place and the very kind people we found there.

A week or so later we had the pleasure of visiting the other end of the county.

At Methuen we found the place of W. Smith & Co. They entered a crop of Marrow squashes and a crop of turnips. There appeared to be a fair crop of squashes with what had already been taken off for market. Turnips looked fairly well, but there seemed to be quite a good many bare spots which might materially affect the harvest. The statements upon both of these crops hardly brought them up to standard of a premium, though the returns were quite good. Had they been worthy of premium, the statements did not conform at all with the requirements of Society offering premium. See page 227, Transactions of Essex Agricultural Society for 1886.

We next visited Mr. Chas. W. Mann, one of the very

thrifty young farmers of our north end of the county who is doing very successful and meritorious work in seed growing. He showed us some low and very wet ground which he has but recently brought into a productive state by running through its centre a main and open drain and covered drains at right angles with this and emptying into it. Upon this and adjoining higher land he raises his onions and seed. Mr. Mann's onions would ordinarily have come up to standard of premium. They looked like an onion of fine quality and enough in number for the space of ground upon which they were grown. But the average onion looked to us (they were raked out when we saw them) rather under size, caused by what Mr. Mann called a "blight stopping the growth when little more than half grown." This seems to be no fault of Mr. Mann's methods or any lack of his efforts to secure the best of results.

His cabbage lot upon the top of one of the highest hills of Methuen was well worth our going to see, though we had a hard climb to get to it. This land was once only used for pasturage, and was covered with stones, which, with great perseverance and labor, have been dug out and removed by Mr. Mann, and with a moderate amount of fertilizer this land has produced cabbages which received First Premium at the fair in Peabody, and to which crop we also recommend an award.

We next visited Mr. John H. George, a near neighbor of Mr. Mann. Here we were invited to dine. We should be obliged to award to Mrs. George, as to Mrs. Page, in Salem, first premium for a sumptuous and well-served dinner. The ladies of Essex county know how to prepare and spread the table with the fruits of the soil.

Mr. George's onions were ripened and fit to rake out a full week before they were seen by us, about Sept. 1. They were upon a piece of land reclaimed from meadow with peat bottom. A ditch simply being cut round his entire lot with no under drain whatever. The soil is very deep. We saw a rake handle thrust down to the head and the

bottom of the soil not reached. A moderate amount of dressing is used, good seed of Mr. Mann's production planted. Hardly a space of six inches in any of the rows where you could not find a fine silver skin. They were very uniform in size and but few very small stock could be seen.

Let it be borne in mind here that some of the most unpromising spots to which we attach little or no importance whatever, have in them the elements of the greatest productiveness and permanent value. And it should be the aim of every farmer to do something to reclaim these waste places.

In the afternoon we found ourselves in Ayers Village, Haverhill, and made a call upon Mr. Rufus Goodwin. This gentleman has a small farm, but makes every inch of it count, the same spot yielding two and even three crops per year. Even the stone wall was covered with cultivated grapes of different variety, and loaded with the luscious fruit.

The special object of our visit was to see his crop No. 3, Goodwin's seedling potato entered for premium.

He had dug most of the crop. Enough, however, were left to show us a sample of the vine and the appearance of the potato when just dug. Vine small, potato near top of ground, smooth and not showing much sign of rot. We saw a pile of them in the cellar, some of which showed more marks of decay. This crop was raised from the small potatoes of the previous year and so on back. Mr. Goodwin has made great effort to bring forward a seedling which shall be a standard potato. His efforts are very commendable, and we are not sure but he has one which will prove to be such. This year, from some cause unknown to us, his crop seems to be undersize as a whole, more than one-third being under No. 1, while those of this grade were only average in size, and while we might look favorably upon this as a new specimen of the potato, we could not award premiums upon such ground, but only upon the consideration of the crop itself.

Mr. David Warren, of Swampscott, was called upon next in order by your committee. He planted the Essex Hybrid squash seed, three or four seeds in the hill upon land planted in 1885 with cabbage, and in 1886 with potatoes.

No extravagant amount of dressing per acre was used. Eight cords stable manure to acre. The crop was highly satisfactory, and this was entered for premium.

It is to be regretted by some of the committee as in other cases that they could not have the pleasure of seeing the crop for themselves.

Mr. James P. King, the last on the list of competitors, called the committee to see a crop of turnips which was raised by him on one of the high points of land in Peabody. The crop was produced upon ground which never felt the point of a plough until the year 1886. It had been an old stony pasture, and was cleared up and planted last year for the first time. Corn being the crop, Commercial Fertilizer only being used as dressing. The crop of turnips this year upon the same ground moderately dressed with compost, was a very handsome one.

The plants were from planted seed equidistant from each other, and with rarely a bare spot in any of the rows. There was nearly an acre and one-third in the entire piece, and scarcely a place which might not have been taken for a sample spot.

Your committee pronounce this one of the finest and smoothest lots of Ruta Bagas seen for many seasons.

This and the onion crop of Mr. George, of Methuen, have shown to your committee that some of the best conducted experiments in our root crops have been made upon lands (both high and low) which have been long unused. There are many such acres in Essex county which are themselves a mine of wealth; but will yield it only to thought and persistent effort.

STATEMENT OF ROBERT FRANK DODGE, OF WENHAM, ON POTATO CROP.

Gentlemen :

The crop of 1885 was grass ; 1500 pounds to the acre, with no manure. Crop of 1886, an excellent yield of corn, planted with twenty loads, of thirty bushels each, of barn manure, and 400 pounds fertilizer. Soil is a dark, gravelly loam, with slight mixture of clay.

Ground was ploughed April 28, about six inches deep, at a cost of $4. Spread twenty-five loads, of thirty bushels each, of barn manure, and 500 pounds of fertilizer, and harrowed it in. Value of barn manure, $2 per load ; fertilizer, $12 per 500 pounds. Cost of harrowing and furrowing, $2. Planted in drills three and one-half feet apart, with seed one foot apart in the drill. Used 500 pounds of fertilizer in drill. Cost, $12. Planted eight bushels of Clark's No. 1 potatoes, covering with horse. Cost of seed and planting, $12. Brushed once ; cultivated and hoed twice ; cost, $6. Turned potatoes out by plough. Cost of digging, five cents per bushel.

Gathered upon the one-half acre entered for premium, 170½ bushels, giving 341 bushels of potatoes per acre.

Cost of crop per acre :

Ploughing,	$4 00
Harrowing and furrowing,	2 00
Barn manure,	50 00
One-half ton fertilizer,	24 00
Seed and planting,	12 00
Cultivating and hoeing,	6 00
Harvesting,	17 00
	$115 00

For one-half acre, $57.50.

Value of one-half acre, at $1 per bushel, $170.50.

NOTE—Product per acre, 341 bushels of potatoes,	$341 00
Cost of crop, per acre,	115 00
Profit per acre, exclusive of land rent and interest,	$226 00

This is to certify that I have measured the potatoes raised by Robert Frank Dodge, of Wenham, and entered by him, for premium, and that his statement is correct.

FRANCIS S. LOVETT, JR.

Oct. 1887.

I hereby certify that I measured one-half acre of land, planted to potatoes, for Robert Frank Dodge, of Wenham, to be entered for premium with Essex County Agricultural Society.

JOHN P. M. GREEN.

Oct. 1887.

STATEMENT OF JOHN H. GEORGE, METHUEN, ON ONION CROPS.

The half acre of onions, which I enter for the Society's premium, is in two pieces of one-quarter acre each, treated in an entirely different manner, so it will be proper for me to treat them separately in this report. For convenience, I will call them Lots No. 1 and 2.

Lot No. 1 had onions on it last year. In 1885, it had potatoes. For manure, it had, last year, eight cords compost, similar to that used this year, to the acre. The soil of both pieces is reclaimed meadow land.

This year it had at the rate of eight cords compost, made of stable manure, night soil, road dust, and coal ashes, to the acre. The compost, two cords, was put on last fall, with a Kemp manure spreader, and cultivated in. In the spring, the piece was harrowed with an O. K. harrow, brushed with a brush harrow, dragged, and sown with five pounds yellow Danvers seed per acre (except one-quarter pound which was early red globe). This piece was hoed five times; weeded three times; when ripe, cut up with a circular hoe, raked out with a wooden toothed lawn rake, topped and stored. The yield was 236 bushels, measured.

Cost of crop:	Dr.
To two cords compost on land, at $4,	$8 00
" preparing soil, one man and one horse, 1-4 day,	1 50
" seed and sowing,	5 00
" hoeing five times, one and one-half days' work,	3 00
" weeding three times, six days' work for boy, at 75c.,	4 50
" harvesting and topping, at 5c. per bushel,	11 80
" interest and taxes on land,	4 00
	$37 80

Lot No. 2 was planted in 1885 and 1886, with potatoes. In 1886 was treated with four cords manure and 500 pounds phosphate on the one-quarter acre. This year it had 500 pounds steamed bone, and twelve bushels Canada ashes on the one-quarter acre. The land, in other respects, was prepared in exactly the same manner as Lot No. 1. It was hoed but four times, and weeded but twice, not being near as weedy as where manure was used. The yield was 135 bushels.

The onions on both pieces were A 1, except on Lot 2 they were thin skinned. There was not a half peck scallions on the whole piece.

The cost of Lot No. 2, was:	Dr.
To one-quarter ton steamed bone, at $18,	$4 50
" twelve bushels Canada ashes, at 25c.,	3 00
" preparing land for seed,	1 50
" seed and sowing,	5 00
" hoeing four times,	2 00
" weeding twice, four days' work, boy, at 75c.,	3 00
" harvesting, topping, and storing, at 5c. bushel,	6 75
" interest and taxes on land,	4 00
	$29 75
Dr. Total cost of half acre onions,	$67 55
Cr. Total yield of half acre, 371 bushels onions.	Sold at 96 cts.

See note next page.

NOTE—Product per acre of Lot No. 1, 944 bushels onions,	$906 24
Cost per acre of crop on Lot 1,	151 20
Profit of crop per acre, on Lot 1,	$755 04
Product per acre, on Lot 2, 540 bushels onions,	$518 40
Cost per acre, of crop on Lot 2,	119 00
Profit per acre, on Lot 2,	$399 40
Rate of product per acre, on both lots together, 742 bushels, at 96 cents,	$712 32
Cost per acre, of crop on both lots together,	135 10
Profit per acre, on Lots 1 and 2 together,	$577 22

METHUEN, Sept. 3, 1887.

This certifies that I have this day measured a tract of land, having on it a crop of onions, owned by John H. George, of Methuen, and entered by him, for the Essex Agricultural Society's premium, and that said tract contains one-half an acre.

JOS. S. HOWE, Surveyor.

STATEMENT OF CHARLES W. MANN, OF METHUEN, ON CABBAGE CROP.

To the Committee on Root Crops:

The piece of cabbage which I enter for premium, was grown on the highest hill in the county, on land that was planted to beans in 1885, and sowed to Hungarian in 1886, only a small quantity of phosphate being used each time. The land was in pasture when I bought it four years ago, and has had no manure for at least ten years. The soil is a deep, dark mellow loam, somewhat sprinkled with small stone.

I ploughed and harrowed June 4th, spreading on twenty loans of manure before ploughing, 1200 pounds of ground steamed bone, and applying 950 pounds of Tucker's Bay State Superphosphate in the hill.

The seed was planted in the hill June 8th and 9th; cul-

tivated and hoed three times; and one hundred days from planting could cut plenty of eight and ten pound heads. Cut and sold 108 barrels in Lawrence and Methuen (two and three miles), and put away 1886 heads for seed purposes.

The land measured 24,946 square feet, being 3,166 feet more than one-half acre.

Dr.

5 cords manure, at $8,	$40 00
1200 pounds bone,	12 00
950 pounds Bay State phosphate,	18 05
Plowing and harrowing,	3 00
Planting,	4 12
Seed,	2 00
Cultivation,	15 00
Cutting and marketing,	21 60
Total cost,	$115 77
Cost per acre,	$202 70

Cr.

108 barrels sold,	$92 05
Fodder sold,	5 00
Fodder used,	1 00
250 plants sold,	75
1886 heads for seed, at 5c., in the field,	94 30
Total receipts,	$183 10
Profit,	77 33
Receipts per acre,	338 08
Profit per acre,	135 38

Showing 40 per cent. profit.

You will notice that I charge the whole amount of fertilizers to the one crop, and also make a liberal allowance for marketing, believing that it is just as well to figure that I get fair pay for fertilizers and labor, as to make out a tremendous profit and leave the idea that I do the work for

nothing; interest and taxes are omitted, for the land is certainly improved enough to cover that amount.

CHARLES W. MANN.

Methuen, Mass.

STATEMENT OF DAVID WARREN, OF SWAMPSCOTT, ON SQUASH CROP.

The crop of squashes which I enter for premium, was raised on land which was planted with cabbages in 1885, and in 1886 with potatoes; about eight cords of stable manure applied to acre each year. The soil is a black loam, with sandy sub-soil. Ploughed in fall and spring, about five inches deep. Stable manure applied in spring, eight cords to the acre, and harrowed in with Randall harrow. Planted the last of May, with Essex Hybrid squash, in hills eight feet apart, with from three to four seeds in a hill. Cultivated twice, and hoed twice. Harvested Sept. 30th, 11,620 pounds No. 1 squashes, market price of which was $20 per ton, and 2500 pounds of seconds, which were $16 per ton.

The cost of crop was as follows:

Ploughing and preparing land,	$7 00
Value of manure,	20 00
Seed and planting,	1 50
Cultivating and hoeing,	3 00
Cutting and storing,	5 00
	$36 50

DAVID WARREN.

NOTE—Rate per acre, of squash crop:

22,672 pounds, or 11.34 tons, at $20,	$226 80
4880 pounds of seconds, or 2.4 tons, at $16,	39 04
Total,	$265 84
Cost of crop, per acre,	71 22
Profit per acre,	$194 62

SWAMPSCOTT, Oct. 4, 1887.

The following loads of squashes were weighed by me, viz.:

Six loads, total net weight,	11,620 lbs.
Load of small squash, estimated,	2,500 lbs.
	14,120 lbs.

C. S. LEWIS, Weigher.

MARBLEHEAD, Oct. 20, 1887.

This certifies that the land upon which grew the crop of Hybrid squashes offered for premium, by David Warren, of Swampscott, measures one-half acre and two square rods.

BENJAMIN P. WARE.

STATEMENT OF JAMES P. KING, OF PEABODY, ON RUTA BAGA TURNIP CROP.

My turnip crop (Ruta Bagas), I offer for premium on land never ploughed until the year 1886. Planted with corn last year on fertilizer. This year I used for the turnips, at the rate of six cords of compost manure to the acre, spreading it broadcast. The seed was sown in rows, on the level, twenty-four inches apart. Two sample loads were weighed by Charles Emmerton; the rest were measured in bulk, as near the sample loads weighed as possible. The result was 300 bushels of merchantable turnips.

Cost of ploughing and levelling,	$6 00
" " manure on the land, three cords,	21 00
" " seed, and sowing the same,	2 00
" " cultivated twice,	2 00
" " once weeding and thinning,	4 00
" " harvesting,	6 00
Whole expense,	$41 00

Value of Ruta Bagas, 300 bushels, at 40c. per bushel,	$120 00
Expense,	41 00
Profit,	$79 00

NOTE—Rate of turnip crop per acre, 600 bushels,	$240 00
Rate of cost of crop, per acre,	82 00
Rate of profit, per acre,	$158 00

This is to certify that I, Nathaniel W. Felton, surveyed the land for Mr. James P. King, where the 300 bushels Ruta Bagas grew, and found it to be one-half acre.

NATHANIEL W. FELTON.

REPORT OF COMMITTEE ON ORNAMENTAL TREES.

To the Trustees of the Essex Agricultural Society:

GENTLEMEN.—Your committee have been called to act upon only one entry, and having received notice from the Secretary, Colonel David W. Low, that Mr. George L. Hawkes, of Lynnfield, had entered a lot of ornamental trees, immediately arranged to visit his farm the latter part of the third week in September. It was regretted that Mr. T. C. Thurlow was unable to attend and unite his knowledge and experience to that of the remainder of the committee in considering the interesting entry made by Mr. Hawkes. We had, however, the valuable knowledge of Prof. John Robinson, added to that of Messrs. John L. Shorey, E. P. Barrett, and what the undersigned could give. Mr. French retired because he was unable to serve. They have awarded the prize of $10 to George L. Hawkes, of Lynnfield.

Mr. Hawkes has long been a most interested worker in doing much in the line of tree culture, that can only be accomplished by individuals where co-operation in the

form of local societies cannot be advantageously brought to bear, and it was with much pleasure that the results of his efforts were examined and his hospitality enjoyed on the occasion of our visit.

The statement herewith appended is a modest and brief explanation upon which the writer will endeavor to enlarge.

Mr. Hawkes' residence and farm are situated a short distance east of the Montrose station on that branch of the Western Division of the Boston & Maine R. R. which connects Boston with Essex county via Lynnfield, Peabody and Salem, and which runs through a tract of country that nature has made beautiful and healthful by its rolling, elevated, and picturesque land, which has the white pine, some hemlocks and a few red pine, pitch pine, a variety of oaks and maples, ashes, some chestnuts and elms, walnuts and white birches, locusts and red cedars among its prominent natural growth of trees. It is a country that well deserves to become more developed as homes with cultivable land around them. Such briefly describes the character of that part of Essex county in Mr. Hawkes' neighborhood. The railr ad management is evidently making efforts to attract and accommodate such citizens as will make their homes on its line. In driving for either business or pleasure, such pleasing and sheltering lines of trees as your committee found on the highway passing through Mr. Hawkes' farm, must always be appreciated by the public, as well as be a delight in varied ways to those who have wisely done the planting, and show a farsightedness as to the value of such planting. Let those, whose roadsides offer no shade to the passer-by, plan before another spring to plant, at least, on the more sunny side of their streets, such deciduous trees as are best adapted to their soil, which shall in good time afford shelter from the sun's rays, and beautify the landscape during the summer seasons.

By reference to the appended statement it will be

found that Mr. Hawkes planted his maples chiefly in three lots; the first were planted by seed sown 41 years ago, and transplanted to their present location in a grove in 1853, which are large and handsome specimens; the second lot was set out on the roadside about 25 years ago; while the third lot was set about 13 years ago, and with very few exceptions all look well. The foregoing amounted to about 40 trees, ranging from 41 to 13 years, measuring from 7 to 16 inches in diameter, and up to 45 feet in height.

There were two Norway maples of large size planted at the western side of the house, which in summer acted as a shelter from the hot western rays of the sun, and under whose spreading branches there was a delightful spot to work, or rest in hammock or chair. When the leaves have fallen, the warm rays fall gratefully upon the homestead. These maples were presented to the father of our host by the late ex-President R. S. Fay, of Lynn. They are now 17 inches in diameter, and "while resembling the rock maple in general appearance, have a larger leaf and fuller, deeper green foliage, and in the spring an abundance of yellow blossoms" as we find given in the following statement.

In addition to these we viewed a lot of white pines which had been taken, when small, from another part of the farm and set as a screen and wind break along that part of a field bordering the railroad embankment. In order to hasten their growth upward, several tiers of their lower limbs had been removed.

Two or three specimens of the sugar maples had been gradually dying for the past year or two, and none of your committee could explain the cause. Those who can give information upon this subject are requested to offer their knowledge and experience in the form of an essay next year.

Mr. Hawkes has also had experience with the American white ash, and stated that "its limbs are liable to decay;

it puts on its foliage late and loses it early, and in its early years is a slow grower," and he does not consider it a very desirable ornamental tree.

Its wood is, however, useful, and while we find that its main stem is generally healthy, may not the facts he states against it as an ornamental tree, make it a good tree for thick planting as a forest crop? I know of Ashes being planted by a gentleman of Middlesex county as such a crop.

It may be true that we have a sufficient proportion of woodland compared with open land in Massachusetts, viewed from the standpoint of usefulness; but there can be no harm in increasing that proportion in favor of woodland, provided there exists land which can be made more useful by planting it with trees. I am one who believes that there are few farms in this good Commonwealth where there is not some land, even if the quantity may sometimes be small, that could be improved, to the benefit of itself and surroundings, by a judicious planting of trees.

There is a sufficient amount of good and interesting literature upon this subject, which can be placed in every public library at small cost, and which would give useful advice, not only upon the characteristics of the different kinds of trees and shrubs suitable for the different purposes of planting, but the interest promoted by their perusal would probably result in an increased planting on farm lands, as well as for the more ornamental planting of home grounds and roadsides.

These last are a most useful, simple and delightful work to undertake, and especially in our climate where the heat of summer is often very severe. We all know how grateful is the shelter from the rays of the sun, when returning from or going to work, and in resting from the toil of the day; and those who plant to provide it, should and must receive the appreciative thanks of all who share in its protection.

Let us also aim to encourage our Surveyors of High-

ways and land-owners, to unite in trying to preserve rows of deciduous trees on our roadsides, where nature has been the planter. Where roadways run in an east or west direction, advantage can be taken of the opportunity to plant or preserve our beautiful white pine or other evergreen trees on the northerly side, where it cannot in the spring-time delay the frost from leaving the road-bed in a uniform manner.

All of which is respectfully submitted, trusting that it will meet with your approval.

FRANCIS H. APPLETON, *Chairman.*

STATEMENT OF GEORGE L. HAWKES.

To the Committee on Forest Trees :—

I desire to make the following statement regarding the ornamental trees which I offer for premium.

The rock maples, twenty in number, making a part of the grove in front of the house, were set thirty-four years ago, and are from six to twelve inches in diameter, and from thirty-five to forty-five feet high. They and some others are from seeds that I brought from Vermont and planted forty-one years ago.

Owing to a rather dry soil and their proximity to a large elm tree, they have not grown so fast as those by the highway. There are also in the grove a few white pines, American elms and white ashes. The limbs of the white ash are liable to decay; it puts on its foliage late and loses it early, and in its early years is a slow grower. I do not consider it a very desirable ornamental tree. The most of the thirty-eight rock maples along the highway and near the house were bought at a nursery and planted twenty-five years ago about twenty-five feet apart. A few were set thirteen years ago, and are from seven to sixteen inches in diameter, and will average forty feet in height. There are two fine Norway maples near the house, seventeen inches in diameter, and while resembling

the rock maple in general appearance have a larger leaf, and fuller, deeper, green foliage, and in the spring an abundance of yellow blossoms.

A few mountain ashes grew finely for several years, when they were attacked by borers and all died.

Respectfully submitted,

GEORGE L. HAWKES.

REPORT ON CRANBERRIES.

There was but one application for premium on cranberries, namely, that of Mr. James P. Butterfield, of Andover.

Your committee, consisting of Silas M. Titcomb, H. A. Stiles, and C. C. Blunt, on the sixth of September, visited the cranberry meadow of Mr. Butterfield. This plot of land upon which the cranberries were growing, contained about one and three-fourths acres, and was formerly a natural pond, but was filled up and cultivated, as will be seen by Mr. Butterfield's statement, but was of not much value. This plot was a few feet below the surface level, and gravelled over with gravel from the adjoining bank, and well covered with a heavy growth of vines, laden with an abundance of beautiful berries, high colored and of large size, and a handsome sight to behold, well worth a visit from any man in Essex county who has a boggy meadow. Your committee, after hearing Mr. Butterfield's statement and beholding with their own eyes the result of his very successful experiment (his crop this season being over six hundred bushels), were unanimous in recommending that he be awarded the first premium of fifteen dollars. Appended will be found Mr. Butterfield's statement.

The culture of the cranberry has not come up to its place among farm crops which its importance demands.

Webster says of it that it forms a sauce of exquisite flavor, and we are told that the American aborigines prepared poultices from cranberries to extract the venom from wounds made by poisonous arrows, and they are used as a

popular remedy for erysipelas. Thus we see how valuable the cranberry is, not only as food but as a medicine. That the cranberry is a favorite luxury is abundantly proved by the high price which a good, and not unfrequently an inferior article will command in the markets.

That it is easy of cultivation, and that there is an abundance of land now lying waste which is just adapted to its growth, is perhaps not so generally known. There are hundreds of acres in Essex county of meadow and swamp land that might be converted into profitable cranberry beds that are now lying waste and almost worthless to the owner, and this healthful and delicious fruit would become still more popular if larger quantities were raised for more general use; and when you come to the profit of raising cranberries, there is hardly a farm crop that pays so well, surpassing even the orange culture of Florida.

Some of the worthless farms in the county that hardly pay for cultivating, have upon them boggy meadow land which, with a little enterprise, and not a large expenditure of money, could be converted into a well paying investment. A most important consideration in selecting a cranberry meadow is its location. This should be, if possible, below the surface of a natural or artificial pond or reservoir, from which the meadow may be filled, and the vines covered in a short time, if necessary, and at the same time have the advantage of being easily drained, so at a proper time the water may be rapidly withdrawn. In such a location the vines can be readily protected from frost, which often gives scarcely an hour's notice of its approach, and also without the danger of scalding, which arises when water is suffered to remain about the vines, through the bright sunshine which sometimes follows a September frost.

In such a location the whole surface can be flowed in the winter to such a depth as to secure the roots from injury through the heaving of the soil, and the flowing can be continued at such a depth and to such a time in the spring as in the judgment of the grower it will be necessary for the destruction of the cranberry worm.

Let it not be understood than the cranberry does not succeed only on land that can be overflowed. Very successful experiments in cranberry culture have been made on land which is never flowed, but which is dry enough for the plough at almost any season of the year. It will grow on almost any soil, sometimes flourishes where the soil seems entirely free from any matter, either animal or vegetable. This berry may be said to live entirely on air and water.

Because peat, which supplies the natural food of the cranberry plant and in which it grows spontaneously, is usually saturated with water, it is sometimes inferred that this is a sort of half and half water plant, which will thrive only where water greatly abounds.

This is a mistake. Cranberries can be successfully grown in any soil, however elevated, in which mould, from woody or vegetable fibre, largely predominates, and in a suitable soil the danger of injury from drought is not greater than in the case of other cultivated plants.

Cranberry meadows are prepared by removing the turf to such a depth that neither grass nor bushes will start from the roots, and setting the vines either in the pure peat or in a surface covering of sand or gravel to the depth of from two to four inches, but not so deep as to prevent the roots of the vines from taking hold of the peat, from which it takes its life and vigor. The former method is preferred by some for the reason that the grasses, which will take root in the peat after cultivation becomes impracticable, are much less formidable enemies to the vines than the rushes and other wiry plants that invariably gain a foothold in sanded or gravelled meadows. It has been the experience of some that sand and gravel check rather than promote the growth of the vines, and that they are useful only as they facilitate the process of clean cultivation, while the vines are acquiring complete possession of the soil.

But whatever opinions exist in regard to the use of sand or gravel, no one would think of reclaiming a meadow for the culture of the cranberry without its use. For trans-

planting, vines should be selected whose fruit is of good size and of dark red color when ripe. The egg-shaped berries are usually the largest and considered the most saleable, though not so heavy as some of the smaller varieties. The vines should be carefully separated from all grasses and other roots, and bound in bunches of half a dozen or more by twisting about them one of the long runners, and in this condition they can be set very rapidly, in hills fifteen inches apart and rows twenty inches apart. Vines may be set at any season, but the spring is much the better time, as vines set early become more firmly rooted and better able to withstand the winter than those set later in the season, After the vines are set, it should be the aim of the cultivator, as soon as he can, to get such a growth as to completely cover the ground. To this end all weeds, grass, moss and bushes should be kept down with a hoe, while a hoe can be used, and afterwards by hand, until the vines have complete possession of the ground, which under favorable conditions will be in about three or four years, when cultivation is generally discontinued.

After the vines have completely covered the ground, little remains to be done except to use all available means for protecting and securing the fruit. Where vines cannot readily be covered with water, the time of harvesting must be made earlier than where flowing can be done at any time. Unripe and immature fruit will sell, but perfectly ripe fruit keeps best and sells best, and of course brings the highest price.

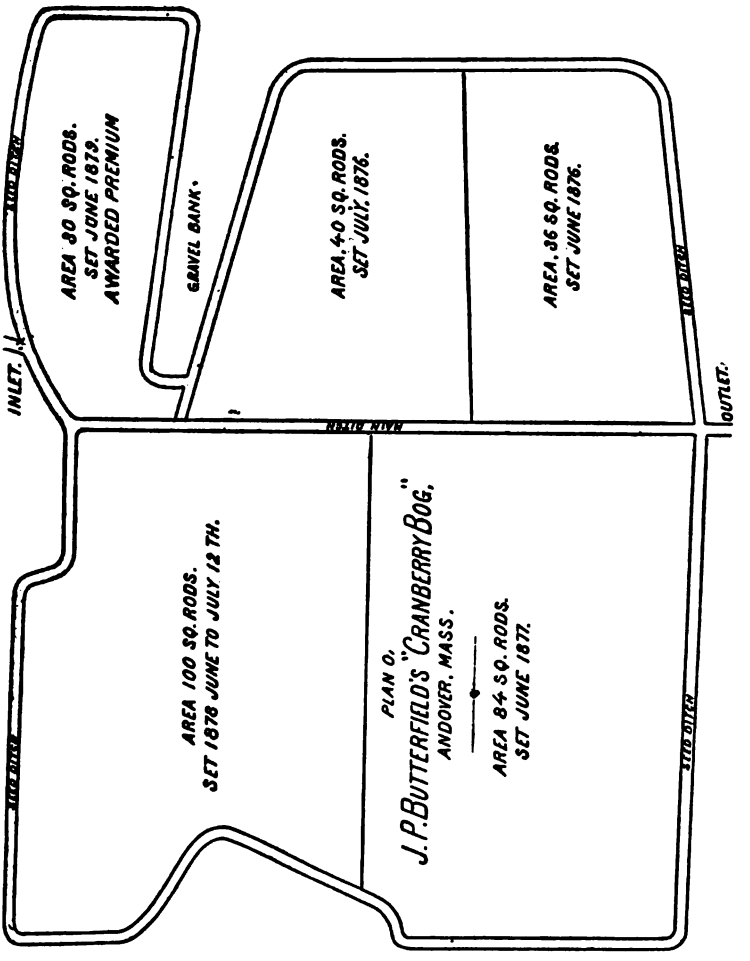
It is estimated that there will be shipped from Cape Cod the present season 100,000 barrels, which goes to show the great importance of this industry.

C. C. Blunt, Chairman, S. M. Titcomb, H. A. Stiles—*Committee.*

STATEMENT OF J. P. BUTTERFIELD, OF ANDOVER, ON CRANBERRY CROP.

ANDOVER, Oct. 31, 1887.

The plat of land represented in the accompanying plan



was formerly a natural pond from four to six feet deep, which was drained and gravelled nearly eighty-six years ago, and was cultivated until 1875, when the writer ploughed nearly one-half acre of it, and after leveling and adding a little more gravel, set it with cranberry vines in June and July, 1876.

(This part is represented in the plan, in 36 and 40 rods.)

The weather was very dry when this plat was set and

nearly all of the vines died above ground, but the roots lived, and the vines covered the ground the third year.

The fourth year I picked 128 bushels on the seventy-six rods. I set about ninety bushels of vines on this plat, which I am convinced is double what there should be. The plat represented in the eighty-four rods was ploughed Oct., 1876, and set the following June. It was prepared in the same manner as the first piece, and set with over one hundred bushels of vines; these vines thrived so well they covered the ground the second year. The third year one variety yielded three bushels to the rod; the fourth year the vines were from twelve to fifteen inches deep, which condition necessitated gravelling. In 1885 this piece yielded 250 bushels, one variety yielding six bushels to the rod; this year (1887) it bore 212 bushels.

The plat represented in the 100 rods was prepared the same as the other two, but only one-half as many vines set. It has thrived as well as the others for a term of years.

The plat represented in the thirty rods was set in 1879, previous to which all the sods and mud had been carted off and it had been filled with stone and levelled with sand. There were a smaller quantity of vines set here than on either of the other pieces; in the seven years since 1879 it has borne 253 bushels of berries, ready for the market when picked, which is about the 20th of September. The largest quantity picked on this piece in one year (1887) 62 bushels; this piece was set with early varieties.

The ditch around the border of the bog marked *seed ditch* is eight inches higher than the middle of the piece, which gives the surface quite an incline. This I consider too much. It only requires sufficient incline to prevent the water from standing on the surface.

I have thought best to take the 30 rod piece set in 1879. This part of the bog had very little muck on it, which, as stated before, was carted off with the turf, and the lowest part filled with stone, gravel and loam from the edge of the meadow, and covered with sand and gravel (the land

around the whole bog is coarse sand and gravel), any of it good for the setting of vines. This piece is 11 rods long, and 30 to 50 feet wide, and the centre is left about 2 in. higher than the outside, the reverse of the main part of the bog, as the *seed ditches* answer to drain the surplus water off as well as to keep the seed from the upland from washing among the vines in a heavy shower. These ditches around the bog are about 10 in. deep and 18 in. wide, cost nothing as the material taken out goes on the piece to level it. The vines were set in rows 18 in. apart, and 6 in. apart in the rows as near as the men could guess.

The cost per acre to set vines as thick as this, is between forty and fifty dollars, that is, to punch the holes and set the vines as some do cabbage plants. The cost of setting the vines on this piece was not kept separate as we set the vines as fast as we levelled the ground. The vines were cuttings about 8 to 10 in. long, set in the ground 5 or 6 in. The cost of the vines was in the gathering, as they were taken from a patch of wild vines, from day to day, as we were ready for them. I would remark, it will take one hand to sort and cut the slips the right length, for two to set. The cost of this plat will have to be given in a lump as you will see by the above. When we had the last row levelled, the men were ready to set it; one reason for so doing was the lateness of setting and dry weather. I did not wish the ground to get dry before the vines were in. Perhaps this is as cheap as any method if one has the required help. The 30 rods cost $73, or nearly $2.50 per square rod. With regard to fertilizer I never use any, only to put on about an inch of gravel once in four or five years.

I will take for examples the two last seasons.

In 1886 I gathered from the before mentioned plat (30 sq. rods) 17 1-2 barrels of berries, which sold in Boston for $6.75 per barrel,		$118 12
Cost of picking berries at 50 cts. per bu.	$25 65	
Cost of sorting and screening,	6 56	

Cost of barrels,	8 75	
Cartage and commission,	14 52	
Weeding vines and clearing ditches,	6 50	
		$61 98
Profit,		$56 14
This autumn (1887) we gathered 21 barrels, sold at $7.75 per barrel in Oct.,		$162 75
Cost of harvesting and marketing,	$57 75	
Cost of weeding and graveling,	12 50	
		$70 25
Profit,		$92 50

Respectfully yours,

J. P. BUTTERFIELD.

NOTE.—Cranberry crop of 1886, per acre, 93 1-3 bbls. at $6 75	$629 94
Cost of crop per acre,	330 56
Profit per acre, exclusive of land rent and interest on investment,	$299 38
Cranberry crop of 1887, per acre, 112 bbls., at $7.75,	$868 00
Cost of crop per acre,	374 66
Profit per acre, exclusive of land rent and interest,	$493 34

An average of $396.36 yearly profit.

REPORT OF COMMITTEE ON STRAWBERRIES AND OTHER SMALL FRUITS.

Your Committee on Strawberries and Other Small Fruits submit the following:

There were but two entries, one of strawberries and one of raspberries, both entered by George J. Peirce, of West Newbury. The committee visited Mr. Pierce's early in July, and found his strawberries in full bearing, and loaded with lucious fruit. The bed No. 1 was perfectly free from weeds, the vines completely covering the ground, still the berries were of good size. There were, I think, four varieties,—Wilson, Crescent, Charles Downing, and Manchester.

We looked the raspberries over. The Cuthberts were as fine as I ever saw. I did not see them when in bearing, it being impossible for me to attend to it at that time. Your committee consider the strawberries and raspberries both worthy, and report awards as follows:

$10. First premium, to George J. Peirce, West Newbury, for strawberry crop.

$10. First premium, to George J. Peirce, West Newbury, for raspberry crop.

Mr. Peirce has sent the following statement which I forward:

J. Henry Hill,
Chairman of Committee.

STATEMENTS OF GEORGE J. PEIRCE, OF WEST NEWBURY, ON STRAWBERRY CROP.

On strawberry bed No. 1, area 101 square rods, soil slaty, sloping north. Land broke up in 1885; three cords of dressing spread and harrowed in, and planted with potatoes, 200 pounds of "Ames'" fertilizer put in the hills. In 1886, ploughed, and 6000 strawberry vines, mostly Wilsons and Crescents, a few Manchester and Charles Downings, set on the bed in May, 1886. Four barrels hen manure and one load of barn manure mixed, and put on in June. In December, covered with mulch. In 1887, when vines were in blossom, applied three barrels of wood ashes. Weeded three times.

CROP OF 1887.

1886.—Cost of ploughing and preparing land,	$4 00
Four barrels hen manure, $3, one load barn manure, $2, mixed, and applied in June, at $7.92 per acre,	5 00
6000 "Crescent" and "Wilson" strawberry plants,	15 00
Planting same in May, at $3 per acre,	1 89

Salt and fresh hay for mulching in Dec.,	10 00
Weeding three times, at $3, boy fifteen days, at 60 cents,	9 00
1887.—Three barrels wood ashes, applied when in blossom,	2 25
Picking 5297 quarts strawberries, at 2 cents,	105 94
Marketing same, at 1 cent,	52 97
Rental value of land, one and one-half years,	4 50
Interest on investment, about one year,	2 10
Total cost of crop,	$212 65

First picking of berries, June 21, 189 quarts. Largest picking of berries, June 27, 961 quarts. Last picking of berries, July 12, 152 quarts.

1887.—Received for 5297 quarts of strawberries, sold at from 9 to 20 cents per quart, averaging 12 cents per quart,	$635 64
Less cost of crop,	212 65
Profit on crop,	$422 99

Strawberry bed No. 2, on 308 1-2 square rods of land, which required no weeding in 1887.

(For description of the planting and crops of this land previous, see statement of George G. Peirce (deceased), in "1886 Transactions," and in "Note" below).

1886.—Cost of dressing with eight loads of horse, coarse stable manure,	$8 00
1887.—Cost of picking 5385 quarts berries, at 2c.,	107 70
Cost of marketing same, at 1c.,	53 85
Cost of land, estimated rental value for one year,	9 00
Interest on investment,	5 00
Total cost of 1887 crop,	$183 55
Receipts for 5385 quarts berries, average price 12 cents quart,	$646 20
Profit from 1887 crop,	462 75

NOTE.—Bed No. 1. planted 1885. Crop per acre in 1887, 8391 quarts, at average price, 12 cents quart,		$1006 92
Expense of bed No. 1, in 1887, per acre,		336 80
Profit per acre, for Bed No. 1,		$670 12
Bed No. 2, planted 1885. Crop per acre, in 1887, 2793 quarts, at 12 cents,		335 16
Expense of Bed No. 2, in 1887, per acre,		95 20
Profit per acre, for Bed No. 2,		$239 96
Bed No. 2. Crop in 1886, 6381 quarts per acre,		797 62
" " Crop in 1887, 2793 quarts per acre,		335 16
Total for two years' crops,		$1132 78
Cost of 1886 crop, per acre,	$280 43	
Add for land and interest on investment,	8 00	
Expense of 1887 crop, per acre,	95 20	
		383 63
Profit per acre, for two and one-half years' planting, or an average of $299.66 yearly.		$749 15

"Bed No. 2 was planted with two rows each, of Crescent, Wilson, Manchester, and Charles Downing. No difference in variety was made in picking and marketing them. He believes that he has better success mixing different kinds together, and they cover the ground better."

STATEMENT OF GEORGE J. PEIRCE, OF WEST NEWBURY, ON RASPBERRY CROP.

On raspberry bed No. 1, crop of Cuthbert raspberries from 71 1-2 square rods of land, third year of picking, and requiring no cultivation or dressing in 1887. (For description of the planting and crop on this land previous, see statement of George G. Peirce (deceased), in 1886 "Transactions," and note below).

Cost of pruning, 1887,	$ 90
Cost of picking 2814 pints berries,	28 14
Cost of marketing same,	28 14
Rental value of land, per acre, $5,	2 30
Interest on investment, per acre, $5,	2 30
Total cost,	$61 78

First picking of berries, July 13, 20 pints. Greatest

picking of berries, July 25, 501 pints. Last picking of berries, August 5, 23 pints.

Picked 2814 pints raspberries, at 8 cents,	$225 12
Less cost of crop,	61 78
Profit from 71 1-2 sq. rods,	$163 34

NOTE.—Crop of 1887, per acre, 3148 quarts at 16 cents,		$503 68
Less cost per acre,		138 25
Profit per acre,		$365 43
Bed No. 1. Crop in 1886, per acre, 2803 qts. at 15c.,		$420 45
" " Crop in 1887, per acre, 3148 qts. at 16c.,		503 68
Two years' products,		$924 13
Cost per acre, in 1886 (land and interest not included),	$218.35	
Add for rental, value of land, and interest on investment,	10.00	
Cost per acre, in 1887,	138.25	
		366 60
Two years' profit, per acre,		$557 53
Average yearly profit,		$278 76

On raspberry bed No. 2, crop of Cuthbert raspberries on thirty-five square rods of land. Second year of picking, no cultivation or dressing.

Cost of picking 1450 pints berries,	$14 50
Cost of marketing same,	14 50
Cost of pruning, at $2 per acre,	44
Rental value of land, at $5 per acre,	1 10
Interest on investment, at $5 per acre,	1 10
	$31 64

First picking, July 19, 125 pints. Greatest picking, July 27, 391 pints. Last picking, August 5, 39 pints.

Receipts for 1450 pints berries, average 8 cents,	$116 00
Less cost of crop,	31 64
Profit in 1887, from 35 square rods,	$84 36

NOTE.—Crop per acre, 3314 quarts, at 16 cents,	$530 20
Less cost of crop, per acre,	144 64
Profit per acre, in 1887,	$385 56

REPORT ON NEW VARIETIES OF WINTER APPLES.

Last year there were two varieties of new winter apples that originated out of the county, entered for premium at the fair at Newburyport, one by C. M. Kent of Newbury the other by Joseph Horton of Ipswich. The apples appeared well, and they were requested to present a sam ple of them to the trustees at their meeting in June. Mr Kent appeared with specimens of his apples that were fresh and good. Mr. Horton was not present, but appeared at the fair in Peabody with good specimens of his fruit. It takes considerable time to fully test the comparative value of different varieties of fruit, as there are so many qualities to be considered.

The flavor of the apples, their size, their bearing quality, their keeping quality, their color, which has much to do in the sale of the apples, all of which should be considered.

Several years ago the Northern Spy, then a new variety, was highly recommended as a late keeping winter apple, that would keep longer than the Baldwin and of superior quality.

Being in Boston market one summer day I noticed a dish of beautiful apples said to be the Northern Spy, a variety I had been long looking for. Price 6 cents each. I took one, put it in my pocket and carried it home that others might partake of the luxury. In the spring I pro. cured scions.

I gave them a fair trial. I grafted a thrifty Baldwin stock that stood in a patch of raspberry bushes, the ground being manured and cultivated. The scions grew vigorously and soon produced fruit large and fair. When time to gather winter apples many of them were specked with rot and unfit for winter use, which has been characteristic of them since, when the tree would bear several bushels in a year. I also grafted two or three Runnels

apple stocks with them on grass land that was kept in good condition by top dressing. The apples on these trees were many of them small and unfair, not fit for market.

The above experiment agrees with our former experience that constant cultivation and manuring will produce large apples, but not as good for use or to keep as those less prolific. There should be, however, cultivation or fertilizing sufficient to keep the trees in a thrifty bearing condition, to produce the best fruit.

These apples rotted worse than others have done under like circumstances. The question arose before the committee on apples at the late fair at Peabody whether the largest apples should have the premium in consequence of their being large, or those of less size that were thought to be better apples. It was decided that the best apples should have the premium, taking both the size and quality into consideration.

Two years ago a history of the Baldwin apple was published in the transactions of the Essex Agricultural Society, which is briefly as follows:—In the latter years of the last century Col. Laomi Baldwin, a distinguished engineer, while engineering for the Middlesex canal from Chelmsford, now Lowell, to Boston, discovered these apples on a tree in a wood in Wilmington, perceived their value and disseminated them. They spread gradually, the Rhode Island Greening, a popular apple (but not red), being their competitor. The first account we have of them was in the south part of the county in 1812 or 1813. They gradually spread over the county. The winter of 1832, a severe winter, that commenced about the middle of November after a mild autumn, before nature had prepared the trees for winter, many beautiful young orchards were almost entirely destroyed, which greatly checked the ardor of the people in propagating them.

Now the Baldwin apple as a variety has become old,

far beyond the common age of man, and by being grafted over and over many times has depreciated and become less valuable, and liberal premiums have been offered by the society for new varieties.

One variety has appeared and in the Ordway apple. It originated in a wood like the Baldwin, and was brought into notice by Mr. Alfred Ordway of Bradford. It much resembles the Baldwin and is hoped to be its equal, but is to be tested and proved by experience. Two other varieties have been brought before the society for premium and it is hoped they will prove what they are represented to be. To prove the value of a variety of apples we think they should be tested in different orchards.

The apple crop is of vast importance to the people of Essex county, not only to the producer but to the whole community. We are as a whole a great brotherhood, all more or less interested in the apple crop and its improvements, and in new varieties, and in the success of each other (or ought to be). We have, during our long experience, many times grafted from other orchards apples that did not prove what they were represented to be.

I have not seen all the committee to consult with them in regard to recommending a premium, as I think more information is necessary as to their production in other orchards. We now hope that our brother farmers will take scions from these trees and test and compare them with other varieties that we may know their comparative value. We also hope the producers will still continue their efforts after new and better varieties, and they will in time be rewarded.

JOSEPH HOW, *Chairman.*

NEW MEMBERS.

The Committee on New Members has attended to that duty, and respectfully reports the following award:

$6. First premium, to John Meacom, Beverly, for obtaining ten new members from Beverly.

Other than those who became members by rule of the Society (a premium of $7 or upwards, having been awarded them), the new members of the society, during the year ending November 1, were ten from Beverly, ten from Peabody, three from Lynnfield, two from Andover, two from West Newbury, two from Rockport, two from Newburyport, and one each from Bradford, Manchester, Wenham, Danvers, Georgetown, Lynn, Salisbury, Methuen.

Your committee would recommend members of the society to show this book of "Transactions of the Society," to their neighbors and friends, and thus convince them that if they are interested in agriculture or horticulture, that in no way can they get so much practical information returned to them, as by investing $3 in a life membership in this society, and yearly receiving its printed "Transactions," besides all the rights and benefits that such membership confers, to say nothing of the pride every such man should have in maintaining the standing and success of a society which Essex county receives such a credit for, that its agricultural people may well be proud of.

DAVID W. LOW, Secretary, *Committee.*

REPORT OF THE COMMITTEE ON TREADWELL FARM.

The lease of the farm to Thomas W. Pierce, had, last April, two years of its term unexpired. The trustees of his estate desired to be relieved from its obligations, and by the payment of $100 the lease was canceled, thus leaving the farm on the hands of the committee. As it proved too late to secure a suitable tenant, arrangements were made with Charles J. Peabody, of Topsfield, to sell the grass standing, for the benefit of the society, and to seed down to grass some thirty acres of land that had been in cultivation for several years previous, and to conduct several experiments, without expense to the society, all of which has been done in a satisfactory manner, by Mr. Peabody, as is shown by his annexed statement.

The farm is now without a tenant, but the committee hope to lease it to a suitable person before the next season. The barn and adjoining shed, built twenty-five years ago, and then shingled with second quality shaved shingles, without repairs since, were in such a leaky condition as to make a new covering a necessity, which is now being done with first quality of sawed cedar shingles, and if they prove as serviceable as those they replace, the society will have reason to be satisfied. There are some broken down gates that are to be put in respectable condition. The committee feel that under the circumstances the farm has made a creditable showing, with receipts of $350. This, with the following statement, is respectfully submitted.

BENJAMIN P. WARE, *Chairman.*

STATEMENT OF EXPERIMENTS ON TREADWELL FARM, IN TOPSFIELD, DURING THE SEASON OF 1887.

First. Experiment with corn, to test comparative value of manure from the barn, and Darling's fertilizer. Lot 1, containing one acre, was manured with four cords of barn manure, applied in the hill. Value on the land, $40; yielded thirty-three (33) bushels shelled corn, and one and one-half tons stover. Value of crop, $37.80, at an estimate of sixty cents per bushel, for corn, and $12 per ton, for stover, or reckoning the seventy pounds corn on the ear as worth the same price for grinding cob and corn together, as an equal weight of western meal costs, as it actually is for feeding purposes, and we have a value of $27.70 for corn, and for making milk, the stover is worth $15 per ton, or $21.50 on the acre. By this estimate, the crop is worth $49.20, and, in my judgment, the latter value, less the cost of grinding, is the true one to the farmer.

On Lot No 2, containing also one acre, was used 1435 pounds Darling's fertilizer, costing $25.07, and producing thirty-two bushels shelled corn, and one and one-half tons stover. Value to sell, $37.20. Value to use, $48.50, on same basis as before. Actual difference in crop on the two lots, one bushel shelled corn in favor of manure.

It is probable that the yield of both lots was reduced one quarter part by the August gale, which so twisted and broke the roots that many ears did not fill out as they should have done under favorable conditions. The corn was also planted much later than usual, as the farm did not come under my care till the season was considerably advanced. Both lots were planted the sixth and seventh of June. The variety of corn was the eight-rowed Canada.

Experiment No. 2. To determine the comparative value of sweet corn for market, and field corn as a crop. On an acre planted with Marblehead Mammoth Sweet corn was raised four hundred and fifty dozen ears, worth in the field, six cents per dozen.

Value of corn sold,	$27 00
Value of small ears, fed to cows,	5 00
Four tons stover, at $15 per ton,	60 00
	$92 00
Value of one acre of field corn, as by previous account,	$49 20
Balance in favor of sweet corn,	$42 80

A significant fact in regard to the value of sweet corn stover, fed green, is, that by actual test, twenty pounds of the stover, fed to each of my herd of nine cows daily, produced as much milk as eight pounds of meal and shorts, the cows having the same pasture in both cases. I tried it for a week at a time, and measured the milk every day.

Experiment No. 3, with Hungarian grass, to try the relative value of Ames' and Darling's fertilizers. Each was used at the rate of three hundred pounds per acre, a lot of six acres being equally divided between the two brands. The Ames produced, on three acres, four tons of dry hay, weighed on public scales. The Darling yielded three and one-half tons, on the same area. The land was sandy rye stubble, considered as poor as any on the farm.

The crop where no fertilizer was used, was fifteen hundred pounds per acre.

The experiment with potatoes cannot be reported, as they were so largely destroyed by the rot.

The Farm may be considered in satisfactory condition in most respects, at present. Thirty acres have been seeded to grass, the past season, with a good catch assured on most of the land. The walls around the pasture have been poled and repaired. The woodwax partially checked, by mowing; and an attempt made to carry on the place in a workmanlike manner. There have been eighteen cords of manure used on the farm, and nearly two tons of fertilizers. No rent has been received from the house, which has been unoccupied.

C. J. PEABODY.

FARMERS' INSTITUTES.

The first Farmers' Institute held by this Society was held at Plummer Hall, Salem, March 18, 1879, and was opened at 9.30 A. M. on the subject of "Vegetables aud Seed," by Hon. J. J. H. Gregory, and in the afternoon on the "Planning and Management of Farms."

The 52d one was held March 25, 1887, (at the same place as the first), which not only shows that this Society complied with the order of the State Board of Agriculture, "that each Society receiving the State Bounty should hold at least three farmers' institutes within its limits in the course of a year," not as a matter of compulsion, but because it early found that they were of great value to the agricultural interests of the county, and as such should not be limited to a sufficient number to satisfy the requirements of the State, and has therefore set apart since 1878 an average of six and one-half days annually for institutes, holding two meetings on each day, each meeting, in most cases, being devoted to different subjects, and held where the different agricultural sections of the county could be

most benefited by attendance, inquiry and discussion. And not satisfied with its institutes for farmers, it set apart the past season its closing day, which although called a "Farmers' Institute," was designated as "Ladies' Day," and the subjects of the day, opened by ladies,* were handled so well and with the after discussion were so interesting and instructive to farmers and their wives, daughters and friends, that it is an institute that has come to stay, and not only on that day may we expect to hear the voice of women instructing and counselling, but at others of the season, to which, our society invites them so cordially.

Our young farmers need not be afraid they intrude when they attend our institute meetings and ask questions or give result of any experiment they have made connected with the subject then under discussion, for our Society extends to all such throughout the county a hearty greeting and urges that more of them be present, for none can go away from such meetings without benefit, intellectually and socially, if not practically.

The Society has held eight "Farmers' Institutes" during the past season, the 45th and first one being held in the Town Hall, Georgetown, December 9, 1886, at 9.30 A. M. Hon. J. J. H. Gregory was introduced by President Ware, and gave a very instructive and interesting talk on the "Improvement of Meadow Lands," showing its structural formation and chemical properties, and how it should be treated. The discussion which followed was taken part in by men of experience in this and other counties of this State, and also from New Hampshire, and the general verdict from such experience was that it pays to improve wet meadow land. In the afternoon the subject of "Root Crops" was opened by Hon. Asa T. Newhall, of Lynn, a successful grower of such crops, who gave in a general way much information, which, with questions after its close, and the successes and disasters of others in cultivating certain crops, made the afternoon, as well as the forenoon, one of profit to those in attendance.

The 46th Institute was held at Rowley Town Hall with large attendance, on December 30, 1886. The forenoon discussion was on the subject of "Which is most profitable for Farmers, to raise their own Cows or to buy them?" opened by C. J. Peabody, of Topsfield, who treated the subject in a manner which showed his experience and observation and that he favored the raising of cows by farmers for their own use. The discussion gave a great deal of information on the subject of raising, feeding and care, and the points of a good cow. The question was left with the evidence rather in favor of farmers raising their own cows.

After dinner, the meeting was called to order at 2 P. M., and the members of the Society proceeded to elect a delegate to the State Board of Agriculture from this Society. Benjamin P. Ware, of Marblehead, was elected.

Hon. John E. Russell, Secretary of the State Board of Agriculture, was then introduced, and after complimenting the Society on re-electing Mr. Ware as its delegate, and on its influence as an agricultural instructor, spoke on the subject of "Sheep Husbandry as adapted to Massachusetts." He treated his subject in his usual able, sprightly, interesting manner, and advocated the keeping of sheep in spite of dogs, of which he said there were 150,000 owners to 3000 of sheep owners, and said that the best way to renovate the hilly pastures of Essex County was by sheep husbandry. The after discussion by various persons brought out their experiences with sheep and dogs and of their profit and loss with sheep keeping.

The 47th Institute was held at Memorial Hall, Methuen, on Jan. 14, 1887, with "Forage Crops," for the forenoon discussion, to have been opened by John Q. Evans, of Amesbury, who was delayed, and Hon. J. J. H. Gregory was called upon, and taking the experiments made with feeding different kinds of forage to cattle at one of the experiment stations as his text, commented upon them in a very interesting manner. During the

discussion which followed, Mr. Evans arrived, and read a very instructive paper on "Forage Crops," which was discussed afterwards until dinner time.

In the afternoon, James C. Poor, Manager of Hon. Wm. A. Russell's stock farm, of North Andover, read a paper and answered numerous questions on the "Care of Farm Stock," which gave much interesting and practical information as did also the discussion of others which followed.

The 48th Institute was held at the Town Hall, Topsfield, January 28, 1887. The subject in the forenoon, "Agricultural Implements," opened by Hon. J. J. H. Gregory, of Marblehead, was one of great value to all farmers, and was listened to with close attention for two hours. He divided farm im lements into five classes; first, those with which to prepare the ground; second, those to plant with; third, those to cultivate the ground; fourth, those to harvest with; fifth, those to utilize the crop with, each of which were thoroughly treated, and was followed by the experiences of others with farm implements, all of which gave information of special value on various implements.

The afternoon subject, "The Growing of Potatoes," by Edmund Hersey, of Hingham, illustrated with the stereoptican, showing different stages of growth at same time, of potatoes planted in different shape, also showing their products when harvested, which, with his lecture, was very interesting and instructive. From result of experiments he stated that whole potatoes yield better than cut ones, and the seed end better than the stem end. The crop three times more from a whole potato than from a single eye.

The 49th Institute was held Feb. 11, 1887, at Town Hall, Bradford, where the subject of "The Value of Corn Stover in comparison with English Hay," was opened by Benjamin P. Ware, of Marblehead, who claimed that good corn stover which had been cut and stooked just as the corn was commencing to glaze and then carefully cured

and housed, was equal in value to English hay, and gave evidence in support of his claim. Some thirteen gentlemen took part in the discussion which followed. Some, while admitting its value, believed that Mr. Ware's estimate of value was set much too high.

The afternoon meeting was opened by Dr. Wm. Cogswell, of Bradford, with an essay on "The Building and Repairing of Country Roads," which contained many valuable suggestions on the subject. The discussion which followed brought out practical ideas from Surveyors of Highways and road builders located in various parts of the county.

The 50th Institute was held at Town Hall, Beverly, February 25, 1887, Nathan Bushby, of Peabody opening the meeting on the subject of "Vegetable Culture," which, from his practical and successful experience, furnished an able talk, with questions answered, of two hours or more, followed by the experiences of the leading vegetable and seed growers of the county and others upon the subject.

In the afternoon the subject of "Fertilizers" was opened by Prof. George H. Whicher, of New Hampshire Agricultural College, who for an hour and a half gave a forcible and practical talk on the value of *chemicals as fertilizers*, illustrating his subject with specimens and giving descriptions of experiments tried at his College and their results.

The results from a test of chemicals beside three "commercial fertilizers" named, as reported by the N. H. State Grange, the figures given representing the increase of sound corn due to $1.00 worth of each tested were:—

$1.00 worth of		gave increased value at
Pacific Guano,		$1.40
Bradley's,		1.72
Stockbridge,		2.16
Chemicals,	bone black, muriate potash, sulphate ammonia,	3.36

He recommended the following combinations of chemicals for fertilizers, the "bone black" containing 16 per cent. phosphoric acid, the "muriate of potash" 50 per cent. of actual potash, and the "sulphate of ammonia" 20 per cent. of nitrogen.

Comb'n for corn, { bone black, 325 lbs. / muriate of potash, 100 lbs. / sulphate of ammonia, 75 lbs. } cost $11.

Comb'n for potatoes, { bone black, 340 lbs. / muriate of potash, 160 lbs. } cost $9.

Comb'n for oats, { bone black, 300 lbs. / muriate of potash, 150 lbs. / sulphate of ammonia, 25 lbs. } cost $8.50

These combinations are for one acre where *no manure* is used, and in case of corn and potatoes, 150 lbs. of each is to be used in the hills, the remainder broadcast.

More potash would have an injurious effect if injudiciously used. He said that fertilizers were not stimulants as much as *necessary food* for the land, as much so, if not more, than manure is.

His instructive and valuable talk was followed by that of others of large experience in the use of fertilizers, who agreed with the Professor in urging upon the farmers the economy to them of manufacturing their own fertilizers.

The 51st Institute was held in Peabody Institute, Danvers, on March 11, 1887, on the subject of "Progress of Ensilage," opened by Rev. O. S. Butler, of Georgetown, who gave an instructive history of it in this country, where it only dates back to 1875, while in Germany and Prussia it was preserved 100 years ago. He gave the opinions of 95 farmers, whose testimony he had collected, and their general tenor was, that ensilage had come to stay, as a permanent institution for the promotion of agriculture. Samples of ensilage corn and ensilage cut in inch lengths were shown.

The afternoon Institute was opened by Francis H. Appleton, of Peabody, on 'Encouragement of Tree Plant-

ing" as a subject, who said that forest growths were a necessity in this country to enrich the soil with their discarded foliage; by retaining water in the soil; their protection against tornadoes, frosts, and other changes of climate, not only important in an agricultural view, but the source of our water ways from which large industries have sprung.

He appealed for the use of our hardy trees and shrubs in decorating and beautifying our homes and grounds and to encourage all such efforts among our people. He gave information of value on the hardy and desirable trees for Essex county, their propagation, etc., and was pleased to see the good effects of "Arbor Day" in many localities, and that "tree planting" should be encouraged in all rational ways

T. C. Thurlow, of West Newbury, followed Mr. Appleton, and for half an hour interested his hearers with hints from his own abundant experience. He thought more attention should be given in our towns to public improvements in the way of parks and adornment of streets and home grounds.

The 52d Institute, or "Ladies' Day,"* was held in Plummer Hall, Salem, on March 25, 1887. The forenoon subject being "Impressions of Farm and Peasant Life in Austria and Germany," by Mrs. E. V. Gage, of Bradford, and conveyed information of interest and value and showed that most of the farm work of those countries was done by women, and from her impressions and that of others, who spoke afterwards, all agreed that our country and New England especially, are far ahead of the old countries of Europe in the intelligence, comfort, advantages and mode of living, of her farming population.

In the afternoon, Mrs. Maria H. Bray, of Gloucester, opened the meeting, on "Flowers." Her essay contained much of the sentimental in relation to them, as well as information in regard to the commercial uses of many of them. She was followed by others who gave practical

information in regard to the cultivation of various kinds of flowers, wild as well as cultivated.

With this, closed a very successful season of Institutes, each attended by from 100 to 400 persons, and of such value that to those who attended they were days well spent.

Those who attended them were in most cases provided near at hand with dinners together, by ladies on charitable thoughts intent, adding much to the sociability of the occasions, and relieving our minds of where to look for something to eat. To them and the Farmers' Clubs, or other interested persons, the Society is indebted for the conveniences provided for holding them in the various places where they have been held.

DAVID W. LOW, *Secretary.*

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* In this connection I cannot resist republishing the fact that ladies were first put upon committees in this Society in 1856, and one of the ladies of the "Flower" Committee of that year made the fact known in their report with these lines:

At the first Cattle Show of which we read,
Man, sole Committee, over all presided,
Till the Great Husbandman, who saw the need
Of Woman's gentler counsel, thus decided:—
"It is not good for man to be alone;"
And straight a helpmeet formed to share his throne.

In this display, where Nature fresh and fair
To Eden's bowers tempts back the roving will,
The old precedent is brought to bear,
And Eve's quick tact is blent with Adam's skill,
To trace the hand of God in fruits and flowers,
And scan the products of man's feebler powers.

If, in the judgment thus conjointly rendered,
Error, like evil, craftily creeps in,
That same old plea which father Adam tendered,
Can now be urged to palliate the sin;
And every blunder written, thought, or said,
Be visited on luckless women's head.

ESSAY ON RECLAIMING ROCKY PASTURES.

BY CHAS. W. MANN, OF METHUEN.

We have in Essex County, many rough and rocky pieces of pasture and woodland that are within easy reach of markets, and when reclaimed would become very profitable fields for cultivation. Many of these relics of the wilderness are of small area, and are often so situated in the midst of smiling fields, or upon the borders of fine farms, as to be a much greater damage to the appearance and selling value of the property than what the income of the same land when cleared would seem to justify, but they are such an eyesore as perhaps to add two or three times the cost of reclaiming to the value of their surroundings, and yet, in many cases the owners are so appalled at the apparent magnitude of the work of making these "rough places plain," that they put it off from year to year, until they finally lose the little courage that they had at first, and settle down to the idea that the works of nature had better not be disturbed too much, especially when it calls for money and hard work to accomplish the object desired.

In many places that are within three miles of some lively village or growing city, the stone removed from these rough pieces of pasture land can be sold and teamed for the building of house cellars, bank walls, and other similar uses, while, if the stones are large and heavy, they may be used in the building of bridges and the laying of heavy foundations for large blocks or factories, and the price is generally from seventy-five cents a perch for the poorest quality, to $1.50 for the large and heavy stone, of good shape, for building purposes, the average price in our county being probably from $1 to $1.25 a perch, for stone suitable for ordinary house cellars. A perch of stone is, exactly measured, 24¾ cubic feet, but is generally reckoned as 25 cubic feet, and will weigh, in squared granite, or large, solid stone, about two tons, while the ordinary stone as dug from the ground and laid up, will weigh about 1½ tons to

the perch; and of the latter, 1¼ to 1½ perch will make a fair load for a common pair of farm horses, while, if the horses are very heavy and the road not too hard, a load of two perch will not be too much, and if the distance is but two miles from the field to the cellar, four trips will be a day's work; if the distance be three miles, three trips will be sufficient, and to do this, the loading and unloading must be done quickly, and though the team need not be hurried in doing it, yet there will be no time for the driver to stop and tell stories.

There are two kinds of stone known as field stone, the round cobbles, such as are found in gravelly soil, and have no face, bed, or build to them, and are almost worthless, save for paving gutters and drives, or grading, filling trenches, and the like, and the square-faced, solid, good-shaped stone, such as are to be found in a heavy, clayey soil. It is of the latter that I have written, and, although in places where ledge stone is easily obtained, there will be encountered a strong prejudice against field stone, growing out of the idea that they are all like those first described, while stone from heavy soil will make as strong and substantial a wall as any ledge stone, and can often be split so as to make a good finish for exposed portions, or faced with granite for a finish, either way making the cost much less than by the use of ledge stone, which costs from $2.25 to $3 a perch; and beside this strong reason for the use of our field stone, is another, that every perch of stone taken from the field helps to improve the property, and the scenery of the vicinity of its former location, as well as to add to the ease and profit of cultivation, while the use of ledge stone only encourages the digging of an unsightly hole in the ground.

The best team to use in the clearing of rocky places, is, undoubtedly, a pair of heavy cattle, either oxen or bulls; they are slower, steadier, and stronger than an ordinary horse team, and there is less danger of loss by accident, overpulling, or straining; yet, a heavy pair of horses,

weighing from 2400 pounds to 2800 pounds will do very good work, if not too high-lived to take to it kindly, and, perhaps the average farm horse is not given to that fault, but with a pair of light horses there is altogether too much jerking and jumping, twitching and backing, to be either pleasant or profitable for the men who work with them, unless it be a very light and easy job.

Strong chains are needed in this work, and can be obtained at lowest cost, at some ship supply store, or rigging loft in Boston, where heavy, short-linked, second-hand ship chains can be bought at very low prices, and cut up and fitted with hooks and rings as may be desired.

A very serviceable stone and bush hook can be made in a short time, at an expense of seven or eight dollars, by any handy blacksmith. Take a piece of bar-iron, four feet long, three inches wide, and one-half inch thick, bend one and one-half feet at one end into a long, sharp-pointed hook, not turned under too much, and work the other end down a little, and put on a four-inch, heavy, iron ring to hitch to. Then make two similar hooks, with about half the length of beam, put one of these on each side of the one first described, and bolt them all together with two one-half inch bolts, spreading the points five or six inches from the middle one, thus making a heavy, three-pronged hook. To complete it, put on a good stout pair of swivel plough handles, and support them with iron braces from the back of the centre beam.

The best team to use on this hook is a pair of heavy cattle. Horses will do good work with it, but are generally too quick for comfort, snapping and twitching about too much, few of them having the weight required for the slow, steady pulling needed in this kind of work. Rocks as large as the team can drag off can usually be taken out of the ground without digging around them; just shove the hook down behind the rock, or under a ragged corner of it, start the team gently, and up she comes. If the first hitch does not fetch, try again. I have tipped a rock weighing

7760 pounds out of its bed, on to a drag, with this hook, though it took three pair of cattle to do it. I afterwards loaded the rock on to a wagon, and teamed it to market with two horses, having it weighed so as to know just what we had done.

I once worked steadily for two hours with a pair of 2400 pound mares and a driver, and then stood and counted eighty stones, as large, and larger, than two men could roll, besides many smaller ones, and no digging around any of them, though they were all fast when we started in. It is quick, exciting, and hard work to hold the hook pulling out large stones, and I would not advise a man to work at it more than one or two hours a day, but in that time he could dig out enough to keep the team busy dragging them off all the rest of the day. Junipers, alders, huckleberry, and all such bushes can be turned bottom up with the utmost promptness and dispatch, and it would make you laugh to see it done, it seems so quick and easy, and you wonder why you never thought of such a thing yourself.

The best time for doing this work is when the ground is wet and soft, it can be done so much easier than in a dry time when the land is dry and hard. We generally have the most time for it in early spring, just as the frost gets out, or after harvest in the fall, when the weather is cool, and we have time to leave the regular work and make some improvement in our surroundings.

I have been at work at odd times for the past three years, on a pasture as rough and stony as most any in our county, save the ledges of the coast, though fortunately very few of the stone are larger than a team can handle without blasting. Some parts of the piece, and in fact a good share of it, yielded more than 300 perch of stone to the acre, and though I have a market for them I should hardly have attempted the job without the hook that I have described, for I believe it has saved more than $100 worth of work in these three years, and is now as good as when made; the only repairing necessary being to sharpen the points occa-

sionally and renew the handles when some big stone happens to roll on to them and break them.

A good drag or stone boat is also very necessary in the work of reclaiming stony ground, and, after wearing out, and pulling to pieces a number of the common wooden ones, I made up my mind to have something better, and here are directions for making it: Take two pieces of oak 3 x 4, and thirty inches long for end pieces, and two pieces of 2 x 3, five feet long for sides; these are to be bolted to the bottom with flat-headed, one-half inch bolts, and the heads counter-sunk. For the bottom, go to the boiler shop, in the city, and get a piece of second-hand, 1-4 inch boiler plate, 2½ x 7 feet; have a foot at each end turned up in the rollers; cut out a half round notch in the middle of each end, to allow an easy chance to hitch; punch all the needed bolt holes for the side and end pieces, and four more about an inch from the edge of the ends, to fasten on some small strips of wood, to prevent the sharp edge of the iron cutting the heels of the team; bolt a ring to the end piece at both ends to draw by, and you have a double ender that is but little heavier than wood, will run as easy, better in most places, and will last for years. I made such a drag two years ago, and have pulled, perhaps, 500 perch of stone on it, some of them weighing nearly or quite four tons each, and, instead of wearing it out, as it would a wooden one, it rather seemed to do it good; it got the bottom well polished.

If I were to use this drag on snow, or down hill work, I should put a pole to it, for no matter how heavily it is loaded it will slide round like a hen on ice, and there seems to be hardly any limit to what a team can pull on it; mine cost about $8, and is one of the best investments I have ever made. Four to six good steel bars of varied sizes, will be required if doing a big job of clearing, and if many of the stone are larger than the teams can easily handle, an assortment of steel drills will be necessary, and blasting must be done; striking hammers will be needed, and a

heavy breaking hammer of sixteen pounds weight will be very useful, even on a small job, for many a shaky or brittle rock can be broken and handled much easier than while whole, and a few blows of the hammer may often save drilling. In undertaking any very extensive piece of reclaiming we shall have to call in the aid of dynamite, which seems to be the cheapest and most powerful explosive material that we can employ.

Dynamite is a mixture of nitro-glycerine with some more solid material to give body, and varies in strength from thirty-five to sixty-five per cent., according to the amount of nitro-glycerine used in the mixture. Five years ago, it cost from forty cents to sixty cents per pound, but can now be bought for twenty-four cents or less, for the thirty-five to forty per cent., which is the quality generally used, and these figures show it to be the cheapest explosive that the farmer can use. Caps cost one and one-half cents each; waterproof fuse one cent per foot, and common fuse about twenty-five cents a hundred feet. It is put up in one-half pound cartridges, from one inch to one and one-half inches in diameter, and eight or nine inches long. It is exploded by percussion, and will only burn if set on fire, making a very bright light. A heavy percussion cap is used for exploding the charge, and the cap is attached to a common fuse, care being taken to have the end of the fuse reach to the fulminate or white powder in the cap, so that the connection may be good. It can be exploded under water, and generally gives the best of satisfaction when so used, as water makes the best of tamping, only it is necessary to keep the water out of the cap, and to do this, put the cap on to the end of the fuse, open one end of the cartridge, make a hole with a small stick, insert the cap and fuse, and tie the paper lightly round the fuse; sometimes it may be well to smear the joint with wheel grease, hard soap, or something of the kind. One cap in a cartridge will explode as many cartridges as are placed near it, perhaps within a foot or two.

Dynamite is dangerous, but less so than gun-powder, for if a charge refuses to explode, on account of a poor cap or a slip of the fuse from the cap, it is easy to run down another fuse and cap, and so explode it; but to drill out an old charge of powder is very dangerous, and should seldom be undertaken. When used in a drill hole, it is not necessary to tamp it, as with powder, but just fill the hole with water, moist sand, or even dirt that is damp enough to pack and exclude the air.

For ordinary field rocks of one or two tons weight, a one-inch hole, from six to eight inches deep, under charge of one-quarter to one-half pound, will generally be all that is required to break it enough for easy removal, and if the rock is a little soft or shakey, or has a seam through it, a cartridge or two underneath will do the work without drilling, and if you have use for such stone without breaking, no matter how solid they are, they can be thrown out whole without drilling. Run a bar under the middle of the rock and close up to it so that there shall be no cushion of mud between it and the charge, put in one or more cartridges, according to the size of the rock, run in the fuse, fill in with dirt, unless it be under water, and fire it, taking care to put a good distance between yourself and the charge, as the mud and small stone will fly from one hundred to four hundred feet. Nine times out of ten the desired work will be well, quickly, and cheaply done.

Five or six years ago I was the only one in my vicinity who used dynamite, but now there are many who have found it useful in clearing mowing fields, or reclaiming rough pastures. At first I thought it necessary to drill almost every rock that I wished to remove, but I have since done a great deal of blasting with no drilling, thus saving both time and labor. One cartridge will throw out a small stump if placed under the centre and close to the wood, while larger ones will require more, though one cartridge at a time will often do better than two or three at once. I had one boulder that lay buried about level with the surface

of the ground, and mostly under water, which I removed very easily with three cartridges tied to a stick and pushed down beside it in a hole made with a bar; it was kicked out high and dry, more than a rod from its hole, although it weighed all of three tons. Another blast of six cartridges, or three pounds, threw out three tons or more of solid rock from one corner of a very large boulder, and scattered it in pieces of all sizes, for a distance of a hundred feet or more, and throwing one piece of a ton in weight sixty feet from its hole.

Dynamite is like many other things, "A good servant, but a poor master;" it is altogether too quick tempered to be allowed to have its own way, and if you have to keep it on hand, store it away from house or barn, for, though it may be perfectly safe, if it should explode from any cause, you could probably get no insurance, even if you were left to try for it, and do not leave the caps where the children can find them to play with, as they explode with the noise of a rifle, and often do severe damage.

One of my neighbor's little children got a cap one evening and a pair of scissors, and went under the table to investigate its composition, by trying to dig out the fulminate; the result was a loud explosion, an extinguished lamp, a badly frightened family, and a burnt hand. The man of the house now keeps his explosives in an overturned barrel beside the pasture wall, and doesn't allow his children to play in that vicinity.

If there is a good market for stone removed, and the land is more stony than stumpy, the sales will about pay for cost of clearing the land, and the improvement of the property will do very well for profit, and beside, there will be the constant pleasure of owning and daily viewing a smooth and productive field where once was a rough and almost valueless bit of pasture or scrub land; and again, the annual returns from the reclaimed lot will be very acceptable.

Let the members of our grand old Essex County Agri-

cultural Society take hold of this work of reclaiming the odd corners of our farms with renewed vigor, using our odd time and surplus money, if we are fortunate enough to have any, in making improvements in our own surroundings and adding to our own incomes, rather than to speculate in outside matters, that the farmer had far better let alone.

ESSAY ON ANNUALS AND THEIR CULTIVATION.—PART I.

BY M. B. FAXON, OF SAUGUS.

The success in the cultivation of any flower, fruit or vegetable is exactly in proportion to the care and labor bestowed upon the soil for the reception of the seed or plant. In the Fall, as soon as a few severe frosts have stripped my flower beds of their beauty, I clear the surface of the beds and thoroughly trench the soil to the depth of twelve inches; eighteen inches would be better, but my soil does not average over twelve inches, before a gravelly subsoil is reached. The ground having been thoroughly loosened, well decomposed barn-yard manure is applied at the rate of from twenty to twenty-five cords per acre, and turned under one spade deep. Nothing more is done until spring, when the ground is again trenched as before, and a small quantity of some good chemical fertilizer is spread broadcast, and the surface of the beds is then raked smooth and fine, and the preparation of the soil is complete. My largest flower bed is two hundred feet long by sixteen wide, and faces the south. At the back of the bed is a high board fence, which shelters the flowers from the north winds; at the ends and front of the bed is an open lath fence, with gates at convenient distances, and every twenty feet are division fences six feet high to break the force of east and west winds. This ample protection from wind renders this

bed the best on the place, and I look to it for my best flowers; and I wish to emphasize the desirableness of protection from wind for flower beds.

For the past five or six years I have devoted myself almost wholly to the cultivation of asters, sweet peas, pansies and nasturtiums, and tried to grow them to something like perfection; and I believe that there is a future for these flowers that will far exceed the expectations of their most enthusiastic cultivators. Strictly speaking, pansies are not annuals, but as they are largely grown as such let us consider them as annuals.

ASTERS.

It is well to make two plantings of asters—the first about the first of March and the second the first of April, in the greenhouse, hot-bed, or window, in shallow boxes, and as soon as the plants are well up, prick them out into thumb pots. From this time until they are set in the open ground where they are to remain, the greatest care is necessary to keep them from becoming spindling. "Keep the plants as cool as possible, and still keep them growing," is my maxim, and if this is done, good stocky plants will be the result. About the first of May the plants should be set in the open ground in rows or beds, as the cultivator may prefer, but in either case they should be set at least two feet apart. If the weather is dry when they are set they must be watered until they become thoroughly established. Cultivate often, keeping the soil loose and free from weeds until the buds begin to set, when all cultivation must cease. When the plants are about two-thirds grown they should be tied up to stakes; otherwise if a heavy storm should come when they are in full bloom, the plants will be levelled to the ground, and the flowers covered with dirt and spoiled. A bed of asters is in its prime from eight to ten days, and a grander sight is seldom seen than during this time, especially before any of the flowers have been cut. Three

classes of asters practically include all those generally grown. These are, first Truffaut's Pæony-flowered Perfection; second, Victoria; and third Pompon. The Pæony-flowered and Victoria are large asters, the petals of the former incurving to the centre; those of the latter outcurving to the edge. Pompon asters have small flowers about the size of a half dollar. The different classes include the following colors: Pæony-flowered —snow-white, rose, rose and white, dark rose and white, light carmine and white, carmine, crimson, dark crimson and white, purple violet, and violet. Victoria,—white white tinted with rose, rose and white, carmine rose, crimson and violet. Pompon,—white, white and carmin e rose, crimson, crimson and white, and violet. These include all the desirable colors of each class.

SWEET PEAS.

It may be a very broad statement to say, "That the Sweet Pea is the most desirable annual in cultivation," but I have never met anyone who wished to change the position in which the above statement places this most popular flower. Its delicate fragrance, beautiful form and variety of coloring, makes it a favorite with the florist, while its easy culture and long continuance of blooming, secures for it a place in every flower garden. Sweet Peas must be planted as early in the spring as the ground can be worked. The seed should be sown in drills and covered at least six inches deep. This may be done in two ways. Having prepared the ground and made the drills the desired depth, drop the seed and draw into the drill earth enough to cover the seed two inches deep. As soon as the plants appear through this covering draw in two inches more of earth, and so on until the drill is filled even with the surface of the ground, or the seed may be dropped and covered in the usual manner. The surface of the ground sometimes becomes hard just as the young plants are about to appear, especially after a

shower followed by a hot sun, and unless some means are taken to prevent this, many of the young plants will not break through the soil, and no more will be seen of them than if the seed had not germinated at all; and those annoying gaps will appear in the rows. A slight raking just as the plants are breaking ground will prevent this, and also kill any small weeds that may have been started. The only laborious task in the cultivation of sweet peas is bushing them, and bushed they must be almost as soon as they are well up. Birch brush, the same as is used for for tall growing eatable varieties, makes very good bushing. Wire hen netting makes excellent support, and is very neat. Whatever the vines are trained to must be firmly secured in position, as the vines when fully grown will surely be blown down unless strongly supported. It will be found an excellent plan to place the supports used in position before the peas are planted; then sow a row of seed on each side of the support, which when the vines are grown will be entirely hidden from view, and a beautiful wall of flowers will be the result. From the time that your peas begin to bloom, the flowers must be picked every day, if you would have them last until frost; for if allowed to remain, seed will begin to ripen and your peas to cease blooming. The following are standard varieties and should be in every collection:

Painted Lady. A beautiful rose and white.

Crown Princess of Prussia. A delicate light rose.

Scarlet Invincible. Bright scarlet crimson.

White. Pure white.

Purple. Dark purple.

Black Invincible. The darkest variety grown.

The following sorts are of recent introduction, and have not yet been sufficiently tested to warrant placing them among standard varieties, although some of them are very promising:

Princess Beatrice. Beautiful carmine rose, which it holds until frost; an early and continuous bloomer, with

extra large petals. If this variety continues as good during the next few seasons, it will doubtless take the place of the Crown Princess of Prussia, which does not hold its color as well.

Cardinal. A splendid, robust growing variety, producing a great profusion of bright, shining, crimson scarlet flowers, very distinct and handsome.

Indigo King. The standard of this charming variety is a dark maroon purple, with clear indigo blue wings.

Princess of Wales. A lovely variety, shaded and striped with mauve on a white ground in a most pleasing manner; the flowers are of great substance and perfect shape.

Vesuvius. A new large-flowered variety; very fragrant; upper petals brilliant rose, shading to a deeper hue, and spotted carmine: lower petals violet shaded lilac.

Bronze Prince. A magnificent variety with well-formed flowers; the standard is of a rich, shining, bronzy maroon, and the wings deep bright purple.

Lottie Eckford. This charming variety is in striking contrast to the preceding, the standard being white suffused with purple; the wings are also white with a pretty edging of blue.

Butterfly. Pure white ground, delicately laced with lavender blue.

The above embrace the most desirable of the newer varieties, although only a few of them. Five new candidates for favor have been added to the list the past season. They are:

Duchess of Edinburgh. Standard, light scarlet, flushed with crimson, slightly marbled, or splashed at the edge with creamy white; wings deep rose.

Imperial Blue. Wings bright blue, slightly shaded with mauve; the standard being rich purple crimson.

Isa Eckford. Beautiful creamy white, heavily suffused with rosy pink.

Orange Prince. The most distinct variety ever grown;

standard, bright orange pink, flushed with scarlet; wings bright rose veined with pink.

The Queen. A very beautiful and pleasing variety; the light rosy pink standard being in charming contrast to the wings which are light mauve.

Before leaving this subject I would like to call your attention to what seems to me to be the "key note" of successful sweet pea culture which in nine seasons out of ten will give success. It is short and easily remembered, "Plant early and plant deep."

THE PANSY.

As we are about to discuss the cultivation of the Pansy as an annual, the first question that presents itself to our mind is,—what strain of seed shall we plant? and this question brings up another—what are the properties of a perfect flower? Substance of petal is the most important point; however perfect may be the form, however beautiful the color, or large the flower; if it is weak and flimsy its beauty is destroyed. The petals must be thick and velvety, a condition which will enable the flowers to keep well after being gathered.

The second point is form. The petals must be so disposed as to form almost a perfect circle, yet I think the two upper petals should be a little longer than the others, so as to just break the circle. The margin must be smooth and the petals perfectly flat, not turning up at the edges, which defect spoils a great many flowers otherwise perfect. The next requirement which demands our attention relates to color; whatever the color it should be clear and pure, with the eye large and distinct. Lastly comes size; of course it is desirable to have good sized flowers, but size is the least important point of a good Pansy. I believe judges usually adopt the following scale of points; form, four points; substance, three; color, two; and size, one; if I were to attempt to improve this

scale, I should say, give to substance four points or perhaps even five, and let us have some good, heavy, velvety Pansies. Referring to my diary I find March 10th has been the average date for planting pansy seed, and May 20th for setting the plants in the open ground. The young plants are treated in the same manner as the asters, and are transplanted into beds as soon as the ground becomes dry and warm. The beds are prepared for the reception of these plants as previously described; except that thoroughly rotted cow manure is the only manure used; horse manure should be avoided. Set the plants two feet apart each way, and water thoroughly in dry weather. Almost as soon as the plants have become established in their new position, they will begin to bloom; and, unless they are closely watched and all the buds are pinched off as they form, the plants will exhaust themselves in producing a few very inferior flowers, and grow very spindlingly. From the day that the plants are transplanted into the open ground the beds should be examined every morning; every visible bud should be pinched off, and every long shoot shortened; the object in view being to obtain large stocky plants full of vitality. If this matter is attended to regularly it will only take a few minutes each day; but if neglected even for a day, and the day be a warm one, some of the plants will be sure to flower, which will weaken them and partly undo our previous work. If the plants are thus kept from flowering until cool weather and then allowed to bloom, the flowers will be of good substance and large size. I do not wish this to be taken as implying that I ever consider the size of the flowers in any different light than as mentioned in my scale of points; but this keeping back process will make large and at the same time heavy and velvety flowers. After the first of September the flowers of almost all other annuals begin to grow poor, and the first frost practically ends their flowering. But the Pansy seems rather to improve than otherwise by

any frost that we usually have in September; and it is from the first of that month until into October that a bed of pansies grown as described is in its prime; a time when flowers of all kinds are becoming scarce. Last Fall after every other flower in my garden had been spoiled by frost, my pansy bed remained for a month in full bloom and covered with the most beautiful flowers.

THE TROPÆOLUM.

Of this extensive genus,—including, with hardy annuals, also greenhouse and herbaceous perennials,—three of the annual varieties chiefly attract our attention; these are:—

Tropæolum major (Tall Nasturtium). A well known running species, much used for covering trellises and rustic work.

Tropæolum minor (Dwarf Nasturtium). A dwarf species, growing from one foot to fifteen inches in height, and one of the most useful flowers we have; for its compact growth and rich colored blossoms renders it an excellent bedding plant.

Tropæolum lobbianum.—A running species, which may be grown on a trellis, or as a dwarf if the ends of the vines are closely pinched off, otherwise it will cover unnecessary space. The flowers are smaller and more cup-shaped than those of the two preceding species, and are of very brilliant colors. As regards the culture of the Tropæolum I have hardly anything to say, it is so easily grown. All that seems necessary is to plant the seed in good rich soil, see that the plants have plenty of room in which to grow, and keep the soil thoroughly stirred.

(*To be continued.*)

ESSAY ON CRANBERRY CULTURE ON CAPE COD.

BY O. S. BUTLER, OF GEORGETOWN.

I have given my subject the above title from the fact that the information gained, and which I shall endeavor to communicate in regard to the cultivation of the cranberry, was derived from frequent visits to the cranberry bogs of the cape, the last visit being made in 1886, at which time I visited more than two hundred separate bogs, ranging in extent from one-third of an acre to one hundred and fifty acres. The largest one I saw was located in the town of Duxbury, Mass. This bog was owned and worked by a corporation, and when I was there they had a large force of men employed in enlarging their bogs.

It may be of interest to know that the cultivation of the cranberry on Cape Cod commenced nearly fifty years ago. The first that we know of its cultivation was in the town of Harwich, by a man by the name of Hiram Hall, and this same town of Harwich still bears the palm among the cape towns both in the extent and value of the cranberry culture and crop, and from the small beginnings of fifty years ago up to the present time, the business has made a rapid growth, and at present stands at the head of all other industries on the cape. I have it from the best authority that the sale of cranberries has brought more money on the cape during the last forty years than all other home industries combined. One beautiful feature in regard to this great increase of revenue is that it is distributed among all classes of the people. Almost every poor man that owns a little homestead has his cranberry bog, although it may be very small, and it is a business that can be carried on by women and children, after the bogs have been prepared, just as well as by men. I found many a poor woman that received an annual income from a small cranberry bog of from one hundred to three hundred dollars, with but very little expense for hired labor.

And what has been done on the cape can be done in Essex county. We have a large extent of meadow land that is nearly worthless now, that might be put under cultivation for the cranberry crop, and many of our old meadows give unmistakable evidence of their adaptation naturally for this crop, by constantly sending forth fine specimens of the natural vine and berry without the aid of cultivation.

But our farmers will ask, what kind of land is best adapted to the cultivation of the cranberry? We should answer by saying not the sandy shores of bays and gulfs or seas. Very many persons have supposed that the reason why the cape cranberries were so beautiful in form and color was because they were grown on the seashore among the salt sea sand. This theory is entirely erroneous. The experiment has often been tried to grow the cranberry among the sands of the seashore, not only on Cape Cod but in our own county, on the sandy beaches of Plum Island, but without success. Dr. Mumford, who tried the experiment on Plum Island, succeeded, after several years of careful study and labor and quite an expense, in raising six or seven perfect cranberries, and then abandoned the business altogether.

Others have supposed that the cranberry could be cultivated successfully upon high lands especially if these lands had moist, springy surfaces, but we do not know of a successful experiment on these lands. The nearest approximation to success that has come under my own observation is that of the late Gorham Brackett, of Ipswich, Mass.

The best lands adapted to the cultivation of the cranberry are the low swamp lands that abound not only on the cape but here in Essex county. Most of the cranberry bogs of the cape are made on the bottoms of the old cedar swamps where they can be easily flowed with water at all seasons of the year. We have seen several very fine cranberry bogs on lands that could not be flowed

with water, but occasionally there will be an entire failure of the crop either from insects or the late or early frosts, that might have been prevented by the flowage of water at the right time.

The methods of flowage are various. The natural flowage is the cheapest and best, if your bog is so situated that you can have your water under perfect control, so that you can let it on and off the bog at your discretion.

Artificial flowage is more expensive, but is more easily controlled. Very many of the smaller bogs on the cape are flowed from a reservoir constructed in the ground above the level of the bog, so that the water will flow on the bog from its own force when the gate is opened. These reservoirs are filled with water from wells dug for the purpose, the water being lifted by windmills, which are very common on the cape, more so than in any section of the country I have visited.

The advantages of flowing the bogs with water are many, the first of which is the protection given to the young berries from the late spring frosts, and the mature berries from the early frosts in the fall. A very shallow surface of water will protect the berries entirely from the frost, and not unfrequently a flowage of one night, or two at most, will save the entire crop, worth perhaps thousands of dollars.

Another advantage of flowing is the protection you can give to the berries from the ravages of the insects that prey upon them, sometimes destroying an entire crop after the fruit is fully grown. The principal one of these insects, and the one most destructive, is the miller or fly that deposits her eggs in the full grown berry by penetrating the surface of the berry, and leaving the eggs to germinate a small worm that in a few days' time consumes the centre of the fruit, leaving the surface round and fair and of a dark rich purple color, but renders the fruit entirely worthless, and the only remedy for this evil is found in flowing the bogs for one or two days when the miller

first makes her appearance, and then the danger is past for this insect makes but one visit a year.

Another question of importance is, what kind of plants shall we set, and what berries shall we grow for profit? There are two kinds of berries that are extensively grown on the cape. The bell berry is the best formed, the richest in color, and the finest in flavor, and will take the lead in any of the markets of the world, but it requires great care in its cultivation, and is not so prolific a bearer as some other kinds. The early black berry is an excellent variety. It does not grow so large as the bell berry, and is not so well formed, but is a sure grower and a prolific cropper, and I should think it was cultivated more largely than any other variety on the cape. There are other varieties that have obtained favorable notoriety in some sections.

The methods of preparing the lands are of very great importance.

The swamps and bogs are cleared of all trees and stumps so that the surface can be made as level and smooth as a floor. This is usually done in the winter when the swamps are partially frozen, and when labor is much cheaper than at other seasons of the year. Then this surface is covered over with sand to the depth of twelve or eighteen inches. The kind of sand used depends on the means of obtaining it. If convenient and easy of access, the shore sand is preferable. Coarse sand is preferable to fine. Good coarse sand is often found in the hills near the bogs, which renders the cost of transporting it much less than when it has to be brought from the distant seashore. When the bog is fully prepared, then the surface is marked off in rows from twelve to eighteen inches apart; the plants are then set in their places by the use of a sharp pointed stick, which is used to make the hole in the ground. The plants are then inserted and filled around with sand, and the work of planting is done. The plants are prepared for setting by

passing through an old style hay cutter with the knife moving up and down, cutting the plants into the desired length, say about four to six inches long. After the plants are set (which is usually done in the spring of the year) they need to be thoroughly cultivated, and kept entirely clear from all weeds and grass, until the vines entirely cover the ground, which takes ordinarily from two to three years. After that, there is nothing more to do but gather your crop, unless you wish to increase your crop or raise your bog to the highest standard of productiveness. If so, you will need to cover the vines with sand about one inch deep as often as once in every five or six years. This will give new life to the plants, and greatly increase their productiveness. But I have seen several bogs that had not been dressed or cultivated for more than twenty-five years, that gave very abundant crops, but these bogs had an underlayer of muck, more than ten feet deep and very rich.

The cost of preparing these bogs varies in different localities according to the price of labor. On Cape Cod the cost of preparing their bogs is about two hundred dollars an acre. This includes the clearing of swamps, the covering it with sand and the setting of the plants. I have visited bogs that cost three hundred dollars an acre where the sand was brought from a distance, but these bogs usually pay for their cost in from three to five years. The more cautious of our farmers will ask, "where could we sell the berries if everybody went into the business?" We answer, there is no danger of everybody going into the business at present, and then we should remember that the markets of the world are open to us. In many countries of the world the cranberry is entirely unknown. Ten years ago the cranberry was not known on the tables, even of the better classes, in the great city of London, as a table luxury, and then we are assured by the best medical authority, that the cranberry contains the best vegetable acid known to science, and as soon as some

enterprising American shall start the business of canning the cranberry in its crude natural state, a market will be opened up for this fruit in all the armies and navies of the world, and all the hospitals and asylums of the world will adopt their use. The demand for this fruit will increase with the supply, and when put up in a form to withstand the changes of climate and conditions, for an indefinite period of time, it can never become a drug in any market of the world, and where the average yield amounts to from two hundred to ten hundred dollars an acre, there must be a large margin of profit.

In closing, I would repeat what I said at the beginning, that Essex county is as well adapted to the cranberry culture as Barnstable county, and we have thousands of acres of meadow and swamp lands that are almost entirely useless, that might be converted into cranberry bogs, and under proper cultivation become the most profitable lands on our farms. The town of Topsfield has a hundred acres of this land, Middleton has more than that, and there is hardly a town in the county that has not more or less of this almost useless land.

We hope to see a more thorough investigation of this branch of agricultural industry in our own county, and would express the hope that the trustees of the Essex Agricultural Society may see their way clear to offer a large premium for the best cranberry bog that shall be made and cultivated during the next five years, said bog to consist of not less than one half acre.

REPORT OF THE COMMITTEE ON ESSAYS, REPORTS AND STATEMENTS.

The Committee to whom was assigned the duty of awarding premiums for Essays, Reports, and Statements, are glad to be able to say that the papers handed to them this year are unusually good, both as respects their contents and the

way in which the respective subjects are presented. The committee have no difficulty in awarding premiums for such essays as these, except the hesitation in discriminating between papers so acceptable to the Society, and deserving, each of them, more than the committee are authorized to award.

They have determined upon the following premiums:

For Essays:

First premium of $15 to Charles W. Mann, of Methuen, for essay on "Reclaiming Rocky Pastures."

Second premium of $10 to M. B. Faxon, of Saugus, for essay on "Annuals and their Cultivation." This essay is incomplete, and is to be concluded next year, the award being made with this understanding.

Third premium of $8 to O. S. Butler, of Georgetown, for essay upon "Cranberry Culture on Cape Cod."

For Reports:

First premium of $10 to C. C. Blunt, of Andover, for report on Cranberries.

Second premium of $8 to Francis H. Appleton, of Peabody, for report upon Ornamental Trees.

Third premium of $6 to J. J. H. Gregory, of Marblehead, for report upon Agricultural Implements.

The committee regret that they have not the means of awarding some compensation to Rufus Kimball, of Lynn, for his excellent report upon "Grain and Seed," and they would recommend that he be granted the sum of $6, as a complimentary award.

In passing upon the merits of essays upon agricultural subjects the committee consider that the best papers are those which present the newest facts derived from personal experience and stated in a concise and perspicuous manner. They do not insist upon literary merit, but merely demand that the writer shall have something to say which is worth saying, and shall do it in an intelligible style. In this connection they call attention to Mr. Mann's essay upon methods of clearing up rocky pastures. This is a matter of

considerable importance in Essex County, and Mr. Mann seems to have used some simple and ingenious mechanical devices which are well worth knowing about. His remarks upon the uses of dynamite are especially interesting, as this is a new agent for this purpose, and according to Mr. Mann's statement is at once cheap and efficient.

The essay of Mr. Faxon upon the Cultivation of Annuals will interest farmers' wives and daughters, and contains specific information about the best methods of planting and growing, derived from a large and successful practice. The cultivation of flowers not only gratifies a taste for the beautiful but also for the useful, and of late years has become a source of profit to thousands of cultivators. Floriculture is an established industry.

Mr. Butler, in his essay on the cranberry, tells how this fruit is cultivated on Cape Cod, and urges that there are many localities in Essex county where it might be grown with equal advantage. The topic is recognized as one of general importance. We think it would be well for some one to gather information upon the point whether the cranberry can be profitably grown upon our Essex county meadows as generally as is supposed. In some instances when tried in localities apparently suitable it has failed, and it would be well to know what are the precise limitations to its easy culture.

The several reports are very good, and also most of those which the committee are unable to recognize for want of the necessary funds.

Mr. Blunt discusses very intelligently the cranberry question. Mr. Appleton deals with a subject of growing interest and importance, that of ornamental and shade trees, which he discusses with familiar knowledge. Mr. Gregory, whose large practical experience is so well known, contributes a great deal of useful information concerning agricultural implements. And so of other reports in this number of the Transactions. There are many that deserve commendation, and the committee believe that the present

volume will be considered one of the best that has been issued.

For the committee,

GILBERT L. STREETER, *Chairman.*

G. L. Streeter, Daniel E. Safford, Nathan M. Hawkes, David W. Low,— *Committee.*

IN MEMORIAM.

Seldom, if ever, has the Essex Agricultural Society been called to mourn the loss of any member whose services have been so closely connected with its success, so much respected and beloved, as that of Charles P. Preston, of Danvers, who died Oct. 27, 1887. He was elected secretary for twenty-five successive years, and until his failing health compelled him to decline. further service. The annual edition of the society's transactions, published under his careful supervision, has gained for him and the society an enviable reputation in the cause of Agriculture, second to no other in Massachusetts. He was a successful farmer, managing the farm of his father and grandfather before him, with much care, and keeping fully up with the progress of the age. His sound judgment and honesty of purpose was appreciated by the community, therefore, he was elected a member of the legislature, and of the board of County Commissioners; was appointed a trustee of the Danvers Asylum when it was first established by legislative act, and in his public positions contributed to the public welfare much that his experience and practical knowledge enabled him to render as but few could.

At a meeting of the Trustees of the Society, held at Salem, Nov. 14th, the following resolutions were unanimously adopted:

Resolved: That, by the recent death of Charles P. Preston, the Essex Agricultural Society has lost one of its best friends, he having faithfully and efficiently served as its secretary for twenty-five successive years, and was at all times an able supporter of its best interests. Always prompt and honest in the performance of his duties as an officer of this Society, and as a citizen. A born farmer, he has made the cause of Agriculture an aid to progress. As a genial, social companion he was loved and respected by all of his associates.

Resolved: That the Secretary furnish the family of the deceased with a copy of these resolutions, and that they be printed in the Transactions of the Society.

NATHAN W. HAZEN, of Andover, died March 19, 1887, aged 87 years. "He was born in Bridgeton, Maine. Admitted to the Massachusetts Bar in 1829, discontinued practice in 1865, and was its oldest member in years, at death. He served in the Massachusetts Senate in 1856, and for several years as President of the Merrimac Mutual Fire Insurance Company. He was a man of quiet benevolence, a loyal friend and a good neighbor." He served this Society on the "Committee on Essays and Farm Accounts," in 1852, he then being a member.

GEORGE GUTTERSON, of Andover, died April 16, 1887. "He was a very worthy citizen, and took a great interest in this Society, serving in 1878, when he first became a member, on the "Committee on Small Fruits." He was a very successful small fruit grower, and was authority on strawberry culture.

RICHARD P. WATERS, of Beverly, died May 19, 1887, aged almost 80 years. He was the first United States Consul at Zanzibar, Coast of Africa, and remained there more than ten years. He purchased Cherry Hill Farm, in Beverly, in 1846, when he became a member of this Society, and greatly interested in its work, active on its committees, and served as Trustee nine years, 1848-1856.

JOHN PICKETT, of Beverly, died Dec. 3, 1887, aged 80 years. He represented his town two years in the Legislature, and was a Selectman four years, and Assessor as long ago as 1838. He was actively engaged in business up to the day of his death. He joined the Society this year.

WARREN ORDWAY, of Bradford, aged 77 years, died May 10, 1887. He was born in West Newbury, May 19, 1810, and learned the trade of carriage maker, but pursued it a brief time. In 1836 he moved to Bradford, and entered into business in Haverhill, where, as a business man, he took high rank, and retired with success, in 1877. He was an officer in banks in that vicinity, and in 1860 represented the town of Bradford in the legislature, and has served the town on its school committee. When the Bradford Farmers' Club was organized he was its first president, and one of its most active supporters.

He was Trustee of this Society in 1856 and 1866, and from 1869 to 1872 inclusive, and was one of its Vice Presidents in 1875 and 1876. In agriculture he took a lively interest, which was a growing feeling with his advancing years, and as a citizen he was energetic, public-spirited, and progressive. In July, 1884, Mr. and Mrs. Ordway celebrated their 50th wedding ("golden") anniversary. His widow, with three of seven children, survive him.

JOHN C. PHILLIPS, of Boston, "died March 1, 1884 (his death not heretofore noticed). He was a graduate of Harvard College in 1858, and for many years an active merchant in New York. In 1878 he bought a large tract of land on the shores of Wenham Lake, and afterwards made it his summer home, planting many thousand trees, native and foreign. He was much interested in farming, and in a short time the barren pastures were made to yield good crops of grain. He took great pride in his stock, and several times sent cows and other animals to the county fair." He became a member in 1880.

GEORGE FAXON, of Danvers, died April 18, 1887, aged 48. He was engaged in the shoe business at different times in Danvers, Lynn and New York. At the time of death he was a travelling salesman of canned goods. He became a member in 1875.

JOSHUA SILVESTER, of Danvers, died July 29, 1887, aged 84 years, 21 days. Born in Wiscasset, Me., in 1803,

he moved with his parents to Andover, Mass., in 1806, and grew to manhood working at farming and shoe making until 25 years of age, when he became a shoe manufacturer and was connected with the shoe business until 1867, when he retired. He went to England several times and there became acquainted with George Peabody, Esq., and was afterwards named by him as a life trustee of the Peabody Institute. "The Danvers Mirror," after a long notice of his death, says, "Many have died richer, but none more thoroughly respected. No man will be more missed and none will be longer remembered. His monument is everywhere where the numberless trees which he was instrumental in setting out are growing yearly more and more beautiful. In them he has left a precious legacy to us and future generations which no money can buy. It was the great pleasure of his declining years to have seen the development of these noble trees from the bare sticks which he had placed in the ground." He joined the Society more than thirty years ago.

CHARLES P. PRESTON, of Danvers, whose death has been previously noticed at the head of this memoriam, became a member in 1849, serving on committees afterwards. Elected trustee in 1856, and serving four years until elected Secretary, which position he filled for a quarter of a century.

JOHN ATKINSON, of Gloucester, died Feb. 21, 1887, aged 83 yrs., 9 mos., 8 days. He was a wheelwright by trade; of business integrity and exemplary character, possessing such a disposition as made him a favorite with all who knew him. He was a member of the Cape Ann Horticultural Society from its organization, and was interested in small fruit culture. He became a member of this society in 1872.

EPES W. MERCHANT, of Gloucester, died June 14, 1887, aged 83 years, 24 days. "In his early life he followed the fisheries, which he left on arriving of age to

engage in the fishing business with his father, and for many years the firm of Epes Merchant & Son was one of the best known establishments of the old town. Mr. Merchant was a director in the Gloucester National Bank for thirty-eight and one-half years and President from 1871 to time of death. He was connected with the Cape Ann Savings Bank for many years as Trustee, was one of the incorporators and President of Oak Grove Cemetery Association from 1855; director of the Gloucester Fishermen's and Seamen's Widows' and Orphans' Association; and served upon the Town Hall building committee in 1869, and a member of the Board of Aldermen in 1874. He also served as captain under the old militia law. He was a man of methodical habits, conservative views, of generous instincts and unimpeachable integrity." He became a member in 1872.

MOODY S. DOLE, of Georgetown, who died March 10, 1887, was twenty-five years ago an active member of this society and was noted for his skill as a ploughman, taking premiums for a number of years. He became a member in 1855.

SAMUEL HUNT, of Ipswich, died March 9, 1887, aged 73 years. He was an overseer in the Hosiery Mills in that town and joined this society about fifteen years ago.

NATHAN W. HARMON, of Lawrence, died Sept. 16, 1887, aged 74 years, 8 months. He served this Society in 1851 on Committee of Essays and Reports and as Trustee in 1852, '53 and '54. He became a member in 1849. He was always interested in the public schools of his city. Served one term as Senator in the General Court. Was Assistant Assessor of Internal Revenue, and for the last ten years of his life Judge of the Police Court in Lawrence.

HENRY A. BREED, perhaps the oldest member of the Essex Agricultural Society, was born in 1798 and died in 1887. He was engaged in many enterprises, including the great "Eastern Land Speculation," by which he lost

$200,000, and in the building of stores, plank walks, wharves and canals in the early days of the California gold excitement, being one of the early operators in that State. He was one of the original members of the Mass. Horticultural Society, of which he was almost the sole survivor at the time of his decease. He was a man of remarkable health and vigor, and presided at the meeting of the Lynn members of the Society at the election of a Trustee in 1886."

EDWARD S. DAVIS, of Lynn, who died in Lynn during the past year, "was born in the same place June 22, 1808 He was long a member of the Essex Agricultural Society, joining it in 1836 and serving for many years, afterwards on its committees, and taking a lively interest in its proceed ings. He was a member of the House of Representatives in 1839, President of the Common Council in 1852, '53, '56 and '57, and Mayor of the city in 1859 and 1860. During a long period he held important official positions in St. Stephens (Episcopal) church in Lynn, and did more than any other person in the establishment and maintenance of that organization. Mr. Davis was a gentleman universally respected for his sterling qualities."

JOHN NUTTING, of Marblehead, died Dec. 6, 1887, aged 63 years. He became a member in 1860. He was a graduate of the State Normal School at Bridgewater and for ten years was principal of the Story Grammar school in Marblehead, beginning about 1852, and was a kind and faithful teacher. In 1869, Mr. Nutting served as Secretary of Board of Selectmen, during illness of Town Clerk, and has filled other positions of trust. For thirty-five years he was a member of the North Street church choir. He had an illness lasting over eleven years, during which, motion, sight, hearing, speech, one after the other became impaired until life became a blank. He was a shoe manufacturer at the time he was stricken with disease.

WM. F. GOODRICH, of Newbury, died April 27, 1887, at the age of 54. He was both farmer and trader in early life. Twenty or more years ago he purchased the Moody Farm, so called, near the Byfield Factory. and there lived and died. He joined this Society in 1865.

ISAAC H. BOARDMAN, of Newburyport, died July 10, 1887, age 77 years, was one of her wealthiest and most honored citizens. Early fatherless, he was called to the active duties of life in his very boyhood to assist a widowed mother in the support of her family; and once in the battle of this busy world, he has been unremitting in its duties, cares and labors, till the conflict is now ended. For forty years he was interested in the fisheries, especially the Labrador Cod fishery, sending the last one in 1880, having declined from seventy sail to that one. As the fisheries receded he became interested in freighting ships, chiefly cotton carriers, for which Newburyport was famous. Thus he passed from the smaller to the greater in his enterprises as he did in his personal influence, character and the esteem of his fellow men.

He was an officer of the town, and when a city served it in 1851 and 1852 in its councils; in 1853 as an aldermen, and in 1863 as Mayor, declining re-election. He served in the Massachusetts House of Representatives in 1842, 1844 and 1852, and in the Senate in 1855, and held important offices in prominent financial and charitable institutions and was very patriotic in his feelings toward his town, his state and his country.

CHARLES DOLE, of Rowley, who became a member in 1871, died during the past year.

VOLNEY C. STOWE died in Salem, Oct. 26, 1887, from heart disease, at the age of 74 years. He was well known in Salem from his long connection with the bakery business, and the service rendered as a member of the city government. Mr. Stowe was a member of the Common Council in 1848, '54, '55, '57, '70, '71 and '72, and of the Board of Aldermen in '75 and '76. He was also an overseer of the Poor and in the Fire Department.

He was an active, useful and efficient citizen. Of late years he has been retired and lived quietly at his home on Essex street. He received a premium from this society as long ago as 1851 for Milch Cow.

T. O. W. HOUGHTON, of Saugus, died Feb. 15, 1887, aged 52 years. He was employed for many years in a snuff factory. He was interested in the keeping of a herd of Milch Cows for a milk dairy. He served one year as a Trustee of this society.

BEN : PERLEY POORE, of West Newbury. Born in 1820, died May 29, 1887. He joined our society in 1848. Delivered its annual address in 1856, and in 1858 was one of its trustees.

He was always an active industrious worker for the best interests of this society, and always took a lively interest in its agricultural, literary and social success, as his frequent and successful exhibits on his farm (at Indian Hill which his ancestor bought in 1650 by lawful purchase from "Great Tom Indian") and at our Cattle Shows and Fairs, and his valuable essays, statements and reports published in our transactions, and his cheery face and voice, in his witty, entertaining and instructive speeches at many of our annual dinners, can all testify.

Major Poore was of patriotic and military ancestry, and with such blood tingling in his veins, no wonder that from boyhood to age he was full of military ardor ; his martial and scholarly elements alternated in him, or blended harmoniously in patriotic literary labor, when his telegrams were as effective as bullets on the battlefield. His pen was certainly mightier than the sword. His services also to his country, state and county, in literary works, have been invaluable.

His pet grove of forest trees gained from the Massachusetts society for the Promotion of Agriculture a premium of $1000, which had been offered for the best growth of forest trees within ten years from the time of planting. It consists of twenty acres of oak, chestnut, hickory, locust, fir, and pine. Every tree was planted with his own hand.

With exception of Mr. Preston, no member has rendered such valuable service to this society as Major Poore or will be missed more at our annual gatherings.

S. BROCKLEBANK, of Rumney, N. H., your committee was informed, died during the past year. He appeared on the list of members in Georgetown in 1855.

WILSON FLAGG, of Cambridge, another non-resident member, the committee were informed was dead.

It will be seen that the larger part of the members who have gone from us the past year have been men far advanced in life, and have held important positions which they filled with honor and credit.

This Society tenders to the relatives and friends of its deceased members their sympathy with them in our mutual loss.

Benjamin P. Ware, David W. Low—*Committee.*

Dr. GILBERT L. STREETER, TREAS., IN ACC'T WITH THE ESSEX AG'L SOCIETY. Cr.

1886.			1886.	
Oct. 1. To balance of previous account,	$601 96		By amount of Premiums and Gratuities awarded by the Trustees,	$1737 25
To Bank Dividends for October,	381 55		Bills paid for Printing and Advertising,	510 89
To State Bounty received,	600 00		Amount paid to Salem Athenæum,	25 00
To State Tax on Bank Stocks refunded,	5 72		Expenses of meetings of Farmers' Institutes,	47 15
To Cash received for new members,	138 00		Repairs of Tent and expressage,	45 50
To Cash received on account of Treadwell Farm,	650 00		The Secretary's account,	181 77
To Bank Dividends for April,	386 05		The Treasurer's account,	53 00
To amount of unclaimed premiums,	108 25		Loss on Exhibition in Newburyport, paid E. P. Richardson,	41 95
			Balance,	229 02
	$2871 53			$2871 53

Funds belonging to the Society, October, 1887.

10 shares in National Hide and Leather Bank, Boston,	$1101 87	*Amount brought forward,*	$13,532 07
3 shares in National Revere Bank, Boston,	377 62	Amount reported last year,	13,905 01
18 shares in First National Bank, Salem,	1914 66		
18 shares in Salem National Bank, Salem,	2000 00	Loss,	$372 94
42 shares in Asiatic National Bank, Salem,	1281 25		
12 shares in Mercantile National Bank, Salem,	1226 50		
22 shares in Merchants' National Bank, Salem,	1189 50		
5 shares in First National Bank, Danvers,	375 00		
8 shares in National Exchange Bank, Salem,	800 00		
16 shares in Warren National Bank, Peabody,	1595 40		
15 shares in South Danvers Bank, Peabody,	1441 25		
Cash on hand,	229 02		
Total,	$13,532 07		

G. L. STREETER, Treasurer.

Salem, Nov. 15. 1887.

SALEM, Dec. 27, 1887.

The above account has been examined this day, and found properly vouched and correctly cast and the funds on hand correctly reported.

JOS. H. PHIPPEN, Auditor.

Estimated market value of above stocks, Oct., 1887, $16,238 00

List of Premiums Awarded in 1887.

FAT CATTLE.

Henry Gardner, Peabody, for oxen, first premium,	$10 00
B. H. Farnum, North Andover, for oxen, second premium,	8 00
Wm. A. Russell, Lawrence, for fat cow, first premium,	8 00

BULLS.

John Swinerton, Danvers, for Ayrshire bull, first premium,	10 00
D. A. Massey, Danvers, for Ayrshire bull, second premium,	5 00
Isaac C. Wyman, Salem, for Jersey bull, first premium,	10 00
John J. Gould, Ipswich, for Jersey bull calf, first premium,	2 00
Wm. A. Russell, Lawrence, for Holstein bull, first premium,	10 00
Wm. A. Russell, Lawrence, for yearling Holstein bull, first premium,	5 00
Wm. A. Russell, Lawrence, for Holstein bull calf, first premium,	2 00

MILCH COWS.

Wm. A. Russell, Lawrence, for best Milch cow, first premium,	15 00
Wm. A. Russell, Lawrence, for Milch cow, first premium,	10 00
Wm. A. Russell, Lawrence, for Milch cow, second premium,	4 00
Wm. A. Russell, Lawrence, for Milch cow, first premium,	10 00
Wm. A. Russell, Lawrence, for Milch cow, second premium,	4 00

HERD OF MILCH COWS.

Wm. A. Russell, Lawrence, for Herd of Milch cows, first premium,	18 00

HEIFERS—FIRST CLASS.

Wm. A. Russell, Lawrence, for Holstein Milch heifer, first premium, 10 00

Wm. A. Russell, Lawrence, for Holstein Milch heifer, second premium, 4 00

Wm. A. Russell, Lawrence, for Holstein heifer, first premium, 4 00

Wm. A. Russell, Lawrence, for Holstein heifer, second premium, 3 00

Wm. A. Russell, Lawrence, for Holstein yearling, first premium, 4 00

Wm. A. Russell, Lawrence, for Holstein calf, first premium, 4 00

Wm. A. Russell, Lawrence, for Holstein calf, second premium, 3 00

D. A. Massey, Danvers, for Ayrshire heifer, first premium, 10 00

D. A. Massey, Danvers, for Ayrshire calf, first premium, 4 00

D. A. Massey, Danvers, for Ayrshire calf, second premium, 3 00

W. S. Dickson, Salem, for Jersey calf, first premium, 4 00

HEIFERS—SECOND CLASS.

James F. Codey, Peabody, for Milch Grade Jersey, first premium, 10 00

Timothy O'Keefe, Peabody, for Milch Grade Jersey and Ayrshire, second premium, 4 00

John Barker, North Andover, for 2 year old Grade Holsteins, first premium, 4 00

J. A. Jones, Lynn, for 2 year old Jersey and Ayrshire, second premium, 3 00

Daniel G. Tenney, Newbury, for one year old Grade Jersey, first premium, 4 00

City Farm, Salem, for one year old Grade Holstein, second premium, 3 00

Jenkin M. Emerson, Middleton, for heifer calf, first premium, 4 00

Stephen Blaney, Peabody, for twin calf, second premium, 3 00

WORKING OXEN AND STEERS.

Lyman Wilkins, Middleton, for working oxen, first premium,	12 00
George P. Wilkins, Middleton, for working oxen, second premium,	10 00
Wm. P. Christopher, Middleton, for working oxen, third premium,	8 00
B. H. Farnum, North Andover, for working steers,	10 00

TOWN TEAMS.

Middleton town team, first premium,	20 00

STEERS.

B. W. Farnum, North Andover, for steer calves, first premium,	4 00

STALLIONS—FIRST CLASS.

H. H. Hale, Bradford, for 4 year old Percheron stallion, first premium,	10 00
John Parkhurst, Boxford, for 3 year old Grade Percheron stallion, first premium,	8 00

STALLIONS—SECOND CLASS.

John P. Conant, Wenham, for 4 year old stallion for driving horses, first premium,	10 00
John Flye, Saugus, for 8 year old stallion, second premium,	6 00
John Looney, Salem, for 4 year old stallion, gratuity,	8 00

BROOD MARES.

Abbott & Reynolds, Salem, for mare and foal, first premium,	10 00
Michael Looney, Salem, for mare and foal, second premium,	6 00
Edwin Bates, Lynn, for mare and foal, third premium,	4 00

GENTLEMEN'S DRIVING HORSES.

H. H. Hale, Bradford, for black mare, first premium,	10 00
Dr. W. A. Gorton, Danvers, for bay mare, second premium,	6 00
D. J. Tenney, Newbury, for chestnut gelding,	4 00

FARM HORSES.

F. O. Kimball, Danvers, farm horse, first premium, 10 00
M. H. Poor, West Newbury, farm horse, second premium, 8 00
B. H. Farnum, No. Andover, farm horse, third premium, 4 00

PAIRS OF FARM HORSES.

A. F. Lee, Beverly, first premium, 12 00
Peter Holt, Jr., North Andover, second premium, 8 00
C. N. Maguire, Newburyport, third premium, 4 00

DRAFT COLTS—FIRST CLASS.

H. H. Hale, Bradford, first premium, 10 00

COLTS FOR DRAFT—SECOND CLASS.

James Kinnear, Ipswich, 2 year old colt, first premium, 10 00
James J. Abbott, Andover, 2 year old colt, second premium, 6 00

COLTS FOR GENERAL PURPOSES—FIRST CLASS.

Eben S. Keyes, Rowley, for 4 year old colt, first premium, 10 00
O. A. Blackinton, Rowley, for 4 year old colt, second premium, 6 00
Daniel G. Tenney, Newbury, for 4 year old colt, third premium, 4 00
L. S. Morrison, Danvers, for 3 year old colt, first premium, 8 00
Wm. A. Russell, Lawrence, for 3 year old colt, second premium, 5 00

COLTS FOR GENERAL PURPOSES—SECOND CLASS.

H. H. Hale, Bradford, for two year old colt, first premium, 6 00
Edwin Bates, Lynn, for two year old colt, second premium, 4 00
Charles Sanders, Salem, for yearling stallion, first premium, 6 00
D. G. Tenney, Newbury, for yearling colt, second premium, 4 00

SWINE—FIRST CLASS.

Elizabeth Saunders, W. Peabody, for breeding sow, second premium,	5 00
Robert G. Buxton, Peabody, for Chester White breeding sow, second premium,	5 00
Samuel P. Buxton, Peabody, for Yorkshire breeding sow,	5 00

SWINE—SECOND CLASS.

Munroe Brothers, Lynnfield, for Yorkshire boar, first premium,	8 00
Robert G. Buxton, Peabody, for Yorkshire sow, first premium,	8 00
Robert G. Buxton, Peabody, for Yorkshire breeding sow, second premium,	5 00

SHEEP.

R. S. Brown, Peabody, for Shropshire buck,	8 00

PLOUGHING WITH DOUBLE TEAM.

B. H. Farnum, North Andover, first premium,	12 00

PLOUGHING WITH SINGLE TEAM.

Washington Winslow, Hamilton, with one yoke oxen, first premium,	10 00

PLOUGHING WITH HORSES.

Moses H. Poor, West Newbury, first premium,	10 00
W. M. Bent, Danvers, second premium,	7 00
Edwin A. Durkee, Peabody, third premium,	5 00

PLOUGHING WITH SWIVEL PLOUGH.

Solomon W. Weston, Middleton, with one pair oxen, first premium,	12 00
Wilkins & Christopher, Middleton, with one pair oxen, second premium,	10 00
Jonas Rollins, Danvers, with one pair horses, first premium,	10 00
James C. Poor, North Andover, with one pair horses, second premium,	6 00

PLOUGHING WITH SULKY PLOUGH.

Francis O. Kimball, Danvers, with National Reversible plough, first premium, 10 00

J. E. Page, Salem, with Cassidy plough, second premium, 8 00

IMPROVING WET MEADOW AND SWAMP LANDS.

Luther P. Tidd, Georgetown, first premium, 15 00

IMPROVING PASTURE AND WASTE LANDS.

Charles W. Mann, Methuen, second premium, 10 00

UNDERDRAINING LAND.

Charles W. Mann, Methuen, first premium, 15 00

GRAIN CROPS.

R. Frank Dodge, Wenham, corn crop, first premium, 10 00

ROOT CROPS.

Robert Frank Dodge, Wenham. potato crop, first premium, 10 00

John H. George, Methuen, onion crop, first premium, 10 00

Charles W. Mann, Methuen, cabbage crop, first premium, 10 00

David Warren, Swampscott, squash crop, first premium, 10 00

James P. King, Peabody, ruta baga turnip crop, first premium, 10 00

FOREST TREES.

George L. Hawkes, Lynnfield, ornamental trees, first premium, 10 00

CRANBERRIES.

James P. Butterfield, Andover, cultivating cranberries, first premium, 15 00

STRAWBERRIES AND OTHER SMALL FRUITS.

George J. Peirce, West Newbury, strawberry crop, first premium, 10 00

George J. Peirce, West Newbury, raspberry crop, first premium, 10 00

NEW MEMBERS.

John Meacom, Beverly, most new members, premium,	6 00

ESSAYS AND REPORTS.

Charles W. Mann, Methuen, essay on "Renovating Pastures," first premium,	15 00
M. B. Faxon, Saugus, essay, "Annuals and their Cultivation," second premium,	10 00
O. S. Butler, Georgetown, essay, "Cranberry Culture on Cape Cod." third premium,	8 00
Charles C. Blunt, Andover, report on cranberries, first premium,	10 00
Francis H. Appleton, Peabody, report on ornamental trees, second premium,	8 00
J. J. H. Gregory, Marblehead, report on agricultural implements, third premium,	6 00

MASSACHUSETTS AGRICULTURAL COLLEGE SCHOLARSHIP.

George E. Newman, Newbury, last yearly payment of 1884 award,	25 00

OTHER AWARDS.

Awarded by Committee on Poultry,	44 00
" " " " Agricultural Implements,	27 00
" " " " Carriages,	30 00
" " " " Dairy,	24 00
" " " " Bread, Honey, etc.,	27 50
" " " " Pears,*	85 00
" " " " Apples,	76 50
" " " " Peaches, Grapes, etc.,†	65 50
" " " " Flowers,	43 25
" " " " Vegetables,‡	158 00
" " " " Grain and Seed,	31 00
" " " " Counterpanes and Afghans,	31 00
" " " " Carpets and Rugs,	27 50
" " " " Articles manuf. from Leather,	27 00
" " " " Manufact's and Gen'l Mdse.,	2 50
" " " " Fancy Work and Art Work,	49 25
" " " " Children's Work,	13 50
	$1629 50

CORRECTIONS.—*$1 Gratuity to John T. Pickering, Salem, for Duchess Pears, and $1 Gratuity to P. W. Murphy, Salem, for Louise Bon Pears, were omitted on Committee's report. †$4, first premium, to A. J. Hubbard, Peabody, for basket of Assorted Fruit, omitted on Committee's report, and $1 Gratuity to Mrs. G. P. Osborne, Peabody, instead of 50 cents as printed on page 60. ‡$3, first premium, to Philip Bushby, Peabody, for purple top flat turnip, omitted on page 65.

RECAPITULATION.

FARMS.

Awarded for	Ploughing,	$100 00	
" "	Reclaiming Swamp Land,	15 00	
" "	Improving Pasture Land,	10 00	
" "	Underdraining Land,	15 00	
" "	Ornamental Trees,	10 00	
" "	Cranberries,	15 00	
			$165 00

FARM STOCK.

Awarded for	Fat Cattle,	$26 00	
" "	Bulls,	44 00	
" "	Milch Cows,	61 00	
" "	Heifers,	63 00	
" "	Heifer Calves,	25 00	
" "	Working Oxen and Steers,	40 00	
" "	Town Team of Oxen,	20 00	
" "	Steers,	4 00	
" "	Horses,	128 00	
" "	Colts,	79 00	
" "	Swine,	36 00	
" "	Sheep,	8 00	
" "	Poultry,	44 00	
			$578 00

FARM PRODUCTS.

Awarded for	Grain Crops,	$10 00	
" "	Root Crops,	50 00	
" "	Fruit Crops,	20 00	
" "	Fruits,	227 00	
" "	Dairy,	24 00	
" "	Bread, Honey, etc.,	27 50	
" "	Flowers,	43 25	
" "	Vegetables,	158 00	
" "	Grain and Seed,	31 00	
			$590 75

MISCELLANEOUS.

Awarded for	Agricultural Implements,	$27 00	
" "	" Essays and Reports,	57 00	
" "	" College Scholarship,	25 00	
" "	obtaining new members,	6 00	
" "	Domestic Manufactures,	150 75	
" "	Carriages,	30 00	
			$295 75

Total amount awarded in 1887, $1629 50

Awarded among the towns and cities in the county as follows, viz.: Amesbury, $24.50; Andover, $32.00; Beverly, $27.00; Boxford, $21.00; Bradford, $39.00; Danvers, $169.25; Essex, $22.00; Georgetown, $26.00; Groveland, $9.00; Hamilton, $23.00; Haverhill, $10.50; Ipswich, $14.00; Lynn, $49.00; Lynnfield, $21.00; Lawrence, $123.00; Manchester, $3.50; Marblehead, $36.00; Methuen, $83.50; Middleton, $89.75; Newbury, $93.00; Newburyport, $6.50; North Andover, $68.00; Peabody, $350.75; Rowley, $38.50; Salem, $109.75; Salisbury, $2.00; Saugus, $18.50; Swampscott, $25.50; Topsfield, $3.00; Wenham, $34.50; West Newbury, $56.50. Thirty-one in number, to 367 different individuals. All the towns and cities in the county received awards except Merrimac, Nahant, Rockport and Gloucester.

CORRECTION.—Page 17, Swine, First Class, should be $15 instead of $18. Page 18, Total award on Grounds, $735 instead of $738. Exhibits in hall, Dairy $24 instead of $22. Bread, Honey and Preserves, $27.50 instead of $27.00, and Pears $83.00 instead of $83.50, and Total in Exhibition Hall $661.50 instead of $657.50. Grand Total award on Fair Grounds and in Exhibition Hall, $1396.50.

FINANCIAL RESULTS OF CATTLE SHOW AND FAIR AT PEABODY IN 1887.

Total receipts (including $130 in donations),	$1,772 86
Total expenses (exclusive of awards),	1,215 86
Net Receipts,	$557 00

NOTE. The *net* receipts is all that will appear in Treasurer's report for 1888. The *net* results of any Fair is all that is accounted for by the Treasurer.

OFFICERS OF THE SOCIETY FOR 1887-8.

PRESIDENT,

BENJAMIN P. WARE, of Marblehead.

VICE PRESIDENTS,

GEORGE B. LORING, of Salem.
JAMES J. H. GREGORY, of Marblehead.
THOS. C. THURLOW, of West Newbury.
JAMES P. KING, of Peabody.

SECRETARY,

DAVID W. LOW, of Gloucester.

TREASURER,

GILBERT L. STREETER, of Salem.

HONORARY TRUSTEE,

JOSEPH HOW, of Methuen.

TRUSTEES,

Charles C. Blunt, Andover.	John Baker, Manchester.
B. F. Huntington, Amesbury.	Charles W. Mann, Methuen.
John Meacom, Beverly.	James D. Pike, Merrimac.
Benj. S. Barnes, Boxford.	David Stiles, Middleton.
William Hilton, Bradford.	Wm. R. Johnson, Newburyp't.
Charles H. Gould, Danvers.	Wm. Little, Newbury.
Aaron Low, Essex.	James C. Poor, No. Andover.
Sherman Nelson, Georget'wn.	Francis H. Appleton, Peab'dy.
Alonzo F. Harvey, Gloucest'r.	Andrew Lane, Rockport.
N. Longfellow, Groveland.	Thomas P. Hale, Rowley.

Geo. E. F. Dane, Hamilton.
Richard Webster, Haverhill.
Alden Story, Ipswich.
Asa M. Bodwell, Lawrence.
John L. Shorey, Lynn.
John M. Danforth, Lynnfield.
Reuben Alley, Marblehead.
Henry A. Hale, Salem.
Samuel Hawkes, Saugus.
John Q. Evans, Salisbury.
David Warren, Swampscott.
Baxter P. Pike, Topsfield.
Zachariah Cole, Wenham.
E. G. Nason, W. Newbury.

54—NEW MEMBERS—1887.

Samuel H. Bailey, Andover.
Geo. W. Buchan, Andover.
James P. Butterfield, Andov'r.
Albert G. Bennett, Beverly.
John T. Elliot, Beverly.
Wm. B. Foster, Beverly.
John W. Lovett, Beverly.
Charles Pickett, Beverly.
John Pickett, Beverly.
Jasper F. Pope, Beverly.
Jesse G. Trask, Beverly.
Peter Clark, Beverly.
Mrs. J. C. Phillips, Beverly.
John D. Kingsbury, Bradford.
George S. Perry, Danvers.
William P. Perkins, Danvers.
Francis O. Kimball, Danvers.
L. S. Morrison, Danvers.
David E. Perley, Georget'wn.
Luther P. Tidd, Georgetown.
Ira D. Rogers, Lynn.
Harry W. Monroe, Lynnfield.
Wilbur J. Monroe, Lynnfield.
Geo. M. Roundy, Lynnfield.
John Baker, Manchester.
Wm. M. Rogers, Methuen.
Solomon W. Weston, Middl'n.
Geo. P. Wilkins, Middleton.
D. T. Rowe, Newburyport.
Chas. S. Bartlett, Newburyp't.
Wm. F. Wiley, Peabody.
Charles E. Hoag, Peabody.
Cyrus T. Batchelder, Peab'dy.
Alonzo Raddin, Peabody.
Orville B. Chadwick, Peab'dy.
Nicholas M. Quint, Peabody.
Edward P. Barrett, Peabody.
Simon P. Buxton, Peabody.
Andrew J. Hayes, Peabody.
Amos Merrill, Peabody.
R. S. Brown, Peabody.
James F. Codey, Peabody.
William E. Osgood, Peabody.
Horace P. Whipple, Peabody.
Eben S. Keyes, Rowley.
Daniel S. Gott, Rockport.
Solomon Smith, Rockport.
Hiram Littlefield, Salisbury.
Elizabeth Saunders, Salem.
Isaac C. Wyman, Salem.
Everett K. Day, Wenham.
John P. Conant, Wenham.
Henry J. Pierce, W. Newbury.
John C. Talton, W. Newbury.

CHANGES OF MEMBERS.

Beverly—Alphonso Mason to Topsfield.
Danvers—John A. Blake to Haverhill.
Cornelius Gaffney to South Boston.
Walter F. Martin to Dover, N. H.
E. Swazey to Beverly.
Georgetown—Henry P. Noyes to Andover.
John H. Lovering to Marlborough, Mass.
Milton G. Tenney to Boston.
Hamilton—G. W. Winslow to Lynn.
Haverhill—Herbert E. Wales to Bradford.
Methuen—D. H. Patterson to Lawrence.
Newbury—Otis Mann to Springfield, Mass.
Rowley—D. L. Haggerty to Ipswich.
Washington, Mo.—T. W. Quimby to Haverhill.
Changes by Death, see "In Memoriam," page 157.

CORRECTIONS OF 1886 LIST OF MEMBERS.

Haverhill—Frank B. Barnes should be B. Frank.
Merrimac—A. C. Hill should not be there.
Methuen—George A. Butters omitted 1884 and 1886 lists.
Jonathan Morse died several years ago. Trustee did not report it.
Newbury—Edward Illsley should be Edwin Ilsley.
Rowley—Nath'l M. Dummer should be Nathl. N.
Harrison Tenney should be John H.
Rumney, N. H.—S. Brocklebank dead.
Stockton, Cal.—Joseph S. Hale should have been Lugonia, San Bernadino county, Cal.
Portsmouth, O.—D. Oscar Nelson omitted 1884 and 1886 lists.
North Weymouth, Mass—Frank H. Palmer omitted 1884 and 1886 lists.
Cotton Wood, Idaho county, Idaho Ter.—Charles Lane Palmer omitted 1884 and 1886 lists.

THE EXECUTIVE OFFICERS OF THE SOCIETY FROM ITS ORGANIZATION, WITH YEAR WHEN FIRST CHOSEN, ARE

PRESIDENTS.

1818. Timothy Pickering, Salem.
1828. Frederick Howes, Salem.
1831. Ebenezer Mosely, Newburyport.
1836. James H. Duncan, Haverhill.
1839. Joseph Kittredge, Andover.
1841. Leverett Saltonstall, Salem.
1845. John W. Proctor, Danvers.
1852. Moses Newell, West Newbury.
1856. Richard S. Fay, Lynn.
1858. Daniel Adams, Newbury.
1860. Allen W. Dodge, Hamilton.
1863. Joseph How, Methuen.
1865. William Sutton, South Danvers.
1875. Benjamin P. Ware, Marblehead.

SECRETARIES.

1818. David Cummins, Salem.
1820. Frederick Howes, Salem.
1821. John W. Proctor, Danvers.
1842. Daniel P. King, Danvers.
1844. Allen W. Dodge, Hamilton.
1860. Charles P. Preston, Danvers.
1885. David W. Low, Gloucester.

TREASURERS.

1818. Ichabod Tucker, Salem.
1819. Daniel A. White, Salem.
1823. Benjamin R. Nichols, Salem.
1824. Benjamin Merrill, Salem.
1828. Andrew Nichols, Danvers.
1841. William Sutton, Salem.
1856. William Sutton, South Danvers.
1865. E. H. Payson, Salem.
1881. Gilbert L. Streeter, Salem.

1888.

PREMIUM LIST OF

Essex Agricultural Society,

FOR THE

Sixty-Eighth Annual Cattle Show and Fair,

To be held September 25th and 26th, 1888, in Peabody.

Duties of Trustees.

The Trustee of each town is instructed to see the several members of Committees in his town previous to the Show, and urge upon them the importance of attending to their duties. Also impress upon exhibitors from localities near to the Exhibition, the importance of entering their exhibits the afternoon and evening of Monday, in fairness to those from a distance, who are obliged to come Tuesday.

To be prompt at the meeting of the Society for filling vacancies in committees on the first day of the Exhibition.

Duties of Committees.

Committees on live stock and articles exhibited on the Fair Grounds should appear at the Secretary's office on the grounds, at one o'clock, punctually, on the first day of the Exhibition, and there organize, take the books of entry, and proceed at once to business. Committees in Hall should take the books of entry from the Superintendent as soon after the entries close as the exhibits are arranged for judging.

Full reports of Committees, on the blanks furnished by the Secretary, to be signed by all the members acting on the same, are required of each committee.

Three members of any committee consisting of more than tha number are authorized to act.

The Diploma of the Society being considered the highest premium that can be awarded, no committee is authorized to award it, except for animals and articles *of special merit*, deserving of endorsement and recommendation by the Society.

No committee is authorized to award gratuities, except the committees on agricultural implements, carriages, bread, honey, and canned fruits, domestic manufactures, fruits, vegetables in Hall, and flowers ; or any premium, unless the rules of the Society have been strictly complied with. Neither shall they award premiums or gratuities in excess of the amount appropriated.

No gratuity is to be awarded of less than fifty cents.

The several committees are requested to affix premium cards, and also on animals, blue, white, and red printed premium ribbons, (which may be had of the Secretary or assistant on the grounds and at the hall), for the several animals or articles, designating the grade of premium awarded each, and the name of the person to whom awarded, and special care should be taken that the cards issued correspond with the awards in their report to the Society.

No claimant for a premium can be a member of the committee upon the subject on which he makes his claim.

The reports of award of premiums on ploughing and on animals and articles exhibited at the Show, will be delivered to the Secretary and announced on Wednesday.

The Society offers liberal premiums for the best reports of committees; and the chairmen of the several committees are requested to present to the Secretary a full report explanatory of the opinions of the committee on the matter referred to them, within two weeks after the awards are made at the Show, for publication in the Transactions.*

Reports on farms, crops, etc., to be presented previous to the meeting of the Trustees in November.

Any member of a committee who cannot serve on the same, *is requested to give notice* to the Secretary, *before the Show*, so that the vacancy may be filled.

Each member of the several committees will receive a ticket of admission to the hall of exhibition, on application to the Secretary.

*Chairmen of committees will please notice this request.

General Rules.

Competitors are requested to carefully read the rules and premium list, before making entries.

All claims (entries) for premiums to be awarded at the Exhibition must be entered with the Secretary of the Society, or his agent, on or before 11 o'clock, A. M., of the first day thereof.

All claims (entries) for premiums (on Fair Grounds), must be handed or forwarded to the Secretary or his agent, in writing, previous to the day of the Fair, if possible.

Any person *not a member of the Society*, awarded seven dollars and upwards, shall receive a certificate of membership, for which three dollars of his award will be taken to increase the funds of the Society.

Diplomas awarded will be delivered and premiums paid, on application, either by the person to whom the premium or gratuity is awarded, or an agent duly authorized, by the Treasurer, at First National Bank, Salem.

In all cases the reports of award of premiums and gratuities made by the several committees and adopted by the Society shall be final. Committees should see that the premium cards issued correspond with the premiums and gratuities awarded in their reports.

All premiums and gratuities awarded, the payment of which is not demanded of the Treasurer on or before the first day of September next succeeding the Exhibition, will be considered as given to increase the funds of the Society.

No person shall be entitled to receive a premium, unless he complies with the conditions on which the premiums are offered, and by proper entry as required, gives notice of his intention to compete for the same ; and committees are instructed to award no premium unless the animal or article offered is worthy.

No animal or object that is entered in one class, with one committee shall be entered in another class, except town teams, fat cattle, working oxen, working steers, and farm horses, which may be entered for ploughing, and milch cows, which may be entered with a herd.

In regard to all the subjects for which premiums are offered, it is to be distinctly understood that the Trustees reserve to themselves the right of judging the quality of the animal or article offered ; and that no premiums will be awarded unless the objects of them are of a decidedly superior quality.

Pure Bred Animals, defined by the State Board of Agriculture.

The *proof* that an animal is so bred should be a record of the animal or its ancestors, as recorded in some herd book, recognized by leading breeders, and the public generally as complete and authentic.

Standards adopted :—American Jersey C. C. Register and American Jersey Herd Book, Ayrshire Record and Holstein Herd Book.

Premiums to be Awarded at the Show.

The Committees will take notice that no premium will be awarded unless the animals or objects are of a decidedly superior quality.

DIPLOMAS may be awarded for ANIMALS OR ARTICLES of *special* merit, in all departments of the Fair.

CATTLE AND OTHER FARM STOCK.

TO BE ENTERED IN THE NAME OF THEIR REAL OWNER.

All animals, to be eligible to a premium, shall have been raised by the owner within the County, or owned by the exhibitor within the County, for four months previous to the date of the Exhibition, except Working Oxen, and Working Steers.

All animals, whether teams for ploughing, or animals entered for premium or exhibition, will be fed during the Exhibition, and longer when they are of necessity prevented from leaving, at the expense of the Society

FAT CATTLE.

Fat Cattle, fatted within the County, regard being had to manner of feeding and the expense thereof, all of which shall be stated by the exhibitor in writing and returned to the Secretary, with committee's report.

For Pairs of Fat Cattle, premiums, each, $8, $6, $3
For Fat Cows, premiums, each, $7, $5, $3

BULLS.

*Ayrshire, Jersey, Short Horn, Devon, Holstein, or of any other recognized breed, for each breed,
Two years old and upwards, premiums, $8, $4
Under two years, premiums, for each breed, $4, $3
Bull Calves under one year old, premium for each breed, $2

BULLS OF ANY AGE OR BREED.

*For the best Bull of any age or breed, with five of his stock not less than one year old, quality and condition to be taken into account, and especially the adaptability of the animal to the agriculture of the County, premium, $10

*NOTE.—Competitors are required to give a written statement of pedigree, and committees are requested to be particular in this respect, and return them to the Secretary with report.

MILCH COWS.

For the best Milch Cow of any age or breed, with satisfactory record in quarts or pounds of her daily yield of milk for one or more years, premium, $15

For Milch Cows, either of Foreign, Native or Grade, not less than four nor more than ten years old, with satisfactory evidence as to quantity and quality of milk, either by weight or measure, during the evening and morning of the first and last ten days of any month, premiums, $10, $4

Milch Cows, Ayrshire, Jersey, Devon, Short Horn, Holstein, or any other recognized breed, four years old and upwards, premiums, for each breed, $10, $4

For Native or Grade Cows, four years old and upwards, premiums. $10, $4

For the Cows that make the most butter in any single week from June 1st to September 15th, premiums, $10, $4

NOTE.—A written statement will be required of the age and breed of all Milch Cows entered, and time they dropped their last calf, and when they will next calve, the kind, quality and quantity of their food during the season, and the manner of their feeding, which statement is to be returned to the Secretary with Committee's report.

HERDS OF MILCH COWS.

For herds of Milch Cows, not less than five in number, to be exhibited at the Show, and a correct statement of manner of keeping and yield for one year preceding the Show, premiums, $18, $12

For the greatest produce of milk on any farm, in proportion to the number of cows producing it, not less than four, from April 1, 1887, to April 1, 1888, statement to be made of the exchanges made, manner and expense of food, use made of milk, and such other facts as will illustrate the entire management, special regard being had to the mode in which the account is kept, premium, Diploma, and $15

NOTE.—The above-mentioned statement is to be returned to the Secretary, with Committee's report for 1888. The Committee can accept statements dating from January 1st, preceding Show.

HEIFERS.

FIRST CLASS.—Ayrshire, Jersey, Short Horn, Devon, Holstein, or any other recognized breed, under four years old, in milk, premiums, for each breed, $8, $5

Two year olds of each breed that have never calved, premiums, $4, $3

One year olds of each breed, premiums, $4, $3

Heifer Calves, under one year, premiums, for each breed, $4, $3

SECOND CLASS.—Native or Grade Milch, under four years old, premiums, $8, $5

Two year olds, that have never calved, premiums, $4, $3

One year olds and less than two, premiums, $4, $3

Heifer Calves, Native or Grade, under one year old, premiums, $4, $3

WORKING OXEN AND STEERS.

Stags excluded. For pairs of Working Oxen under eight and not less than five years old, taking into view their size, power, quality, and training, premiums, $12, $10, $8

For pairs of Working Steers four years old, to be entered in the name of the owner, premiums, $10, $6

NOTE.—The Committee are required to consider the quality and shape of the cattle as well as their working capacity. The training of working oxen and steers will be tested by trial on a cart or wagon containing a load weighing two tons for oxen, and 3000 pounds for steers. ☞ At the time of entry a certificate of the weight of the cattle must be filed with the Secretary.

TOWN TEAMS.

For Town Teams of Oxen, ten yoke or more in a team, premiums, $20, $12

For Town Teams of Oxen, eight or nine yoke in a team, premiums, $15, $8

For Town Teams of Horses, ten or more pairs in a team, premiums, $20, $12

For Town Teams of Horses, eight or nine pairs in a team, premiums, $15, $8

STEERS.

For pairs of three year old Steers, broken to the yoke, premiums, $8, $6

For pairs of two year old Steers, premiums, $6, $5

For pairs of yearling Steers, premiums, $5, $4

For pairs of Steer Calves, premiums, $4, $2

STALLIONS.

*All Stallions entered in either class must have been owned by the exhibitor four months previous to the exhibition.

FIRST CLASS. For Stallions for Farm and Draft purposes, four years old and upwards, diploma or premiums, $10, $6, $4

For Stallions for Farm and Draft purposes, three years old, premiums, $8, $5

For best Stallion of any age, and five colts of his stock not less than one year old, quality and condition to be taken into account, premium, $15

SECOND CLASS. For Stallions for Driving purposes, four years old and upwards, premiums, $10, $6, $4

For best Stallion of any age and five colts of his stock, not less than one year old, quality and condition to be taken into account, premium, $15

BROOD MARES.

*For Brood Mares, with their foal not more than eight months old by their side, premiums, $10, $6, $4

*NOTE.—No stallion or brood mare will be entitled to a premium unless free from all apparent defects capable of being transmitted.

FAMILY HORSES.

For Family Horses, premiums, $10, $6, $4

NOTE.—No horse will receive a premium unless free from all unsoundness.

GENTLEMEN'S DRIVING HORSES.

For Driving Horses, premiums, $10, $6, $4

FARM HORSES.

For Farm Horses, premiums, $10, $6, $4

NOTE.—No horse will be allowed except those actually used on farms, whether the owner has a farm or not, and in no case will competitors be allowed to take more than a specified load, 2000 pounds. No obstruction shall be placed either before or behind the wheels in trials of Draft horses of either class. If this rule is not complied with the premium shall be withheld.

PAIRS OF FARM HORSES.

For pairs of Farm Horses (see above note), premiums, $12, $8, $4

COLTS FOR DRAFT PURPOSES.

FIRST CLASS. For Mare or Gelding four year old colts, premiums, $8, $5, $3

For Mare or Gelding three year old Colts, premiums, $6, $3

SECOND CLASS. For two year old Stallion, Gelding, or Mare Colts, premiums, $8, $5, $3

For yearling Stallion, Gelding or Mare Colts, premiums, $5, $3

COLTS FOR GENERAL PURPOSES.

FIRST CLASS. For Mare or Gelding four year old Colts, premiums, $8, $5, $3

For Mare or Gelding three year old Colts, premiums, $5, $3

SECOND CLASS. For two year old Stallion, Gelding or Mare Colts, premiums, $5, $3

For yearling Stallion, Gelding or Mare Colts, premiums, $5, $3

SWINE.

FIRST CLASS. Large breeds, viz.: Cheshire, Berkshire, Chester County Whites, Poland China, Large Yorkshire, and any other breed or grade weighing more than 300 pounds at maturity.

For Boars, premiums, $8, $5

For Breeding Sows, premiums, $8, $5

For Litters of Weaned Pigs, premiums, $8, $5

NOTE.—Litters of Weaned Pigs must be not *less* than four in number, between two and four months old.

SECOND CLASS. Small breeds, such as Suffolk, Essex, Small Yorkshire, China, and any other breed or grade weighing less than 300 pounds at maturity, same premiums as in First Class.

SHEEP.

For flocks not less than ten in number, premiums, $10, $6

For best Buck, premium, $8

For best lot of Lambs, not less than four in number, between four and twelve months old, premium, $4

POULTRY.

For pairs of Light Brahmas, Dark Brahmas, Buff Cochins, Partridge Cochins, Black Cochins, White Cochins, Plymouth Rocks, Dominiques, White Leghorns, Brown Leghorns, Dominique Leghorns, Black Spanish, Hamburgs, Polish, Games, Dorking, Bantams, Black, White, and Mottled Javas, Wyandottes, White Wyandottes, Andalusian, Erminet, Langshangs, and Frizzle, and other recognized varieties, each variety, premiums, $2, $1

For pairs of Chickens of above varieties, premiums, $2, $1

For the best breeding pen of each variety—Diploma of the Society.

Pairs can be exhibited in "breeding pens," by marking the competing female (with a ribbon or colored string), which, with the male will form the pair.

Premiums shall be awarded on a score of not less than 176 points for first premium and 166 points for second premium.

For lots of Turkeys, and Aylesbury, Rouen, Cayuga, Pekin, White and Colored Muscovey, and Brazilian Ducks, and Toulouse, Emden, Brown China, and African Geese, premiums, $2, $1

For the coop of 10 or more Fowls exhibited, whether thoroughbreds crossed or mixed, with an account for one year, showing cost of keeping, production and profit, premium, $5

For the best pair of *dressed* Fowls, Chickens, Ducks, and Geese, premium for each, $2

For the best 12 Eggs from Asiatic, American, Game, French and Spanish classes (Hamburgs, Polish, Dorkings to compete in the Spanish class) exhibited, premium for each class, $1

Any exhibitor interfering with the Judges in the discharge of their duties or interfering with, or handling any specimen on exhibition, other than his own, shall forfeit all claim he may have in the premium list.

All breeds exhibited separately and to be judged by the rules of the "American Standard of Excellence."

COLLECTIONS OF LIVE STOCK.

For the best collection of Live Stock from any city or town in the county, premium, $20

NOTE.—The exhibitors from each city or town, competing for this new premium, must authorize some one to make entry with the Secretary, before the time fixed for closing entries.

PLOUGHING.

GENERAL NOTE ON PLOUGHING.—Stags are excluded. Teams must be entered in the names of their owners, and only double ox-teams to have drivers. A team consisting of one pair of oxen and a horse will be considered a double team. The owners of separate teams may unite the same and be allowed to compete for premiums. The ploughmen and drivers must have been residents of the County at least three months before the exhibition. Those who intend to be competitors must give notice to the Secretary on or before Saturday previous to the show. The lands will be staked, but each ploughman will be required to strike out his own land in the presence of the "Committee on Striking out Grounds for Ploughing," after half-past nine o'clock on the morning of the trial. Ploughmen with land-side ploughs are to back furrow three furrows on each side of the stakes set, the last furrow to be of the depth required in the class. Ploughmen with swivel ploughs to turn the outside of their furrows to the stakes on one side, and to finish one foot from the stake on the other. Committees to note and report the kind of plough used.

PLOUGHING WITH DOUBLE TEAMS.—One-sixth of an acre, at least eight inches deep, premiums, $12, $10, $9, $8

PLOUGHING WITH SINGLE TEAMS.—One-sixth of an acre, at least six inches deep, premiums, $10, $9, $5

PLOUGHING WITH HORSES.—With any form of Plough, except Swivel, one-sixth of an acre, at least six inches deep, premiums, $10, $7, $5

PLOUGHING WITH THREE HORSES.—One-sixth of an acre, eight inches deep without driver, premium, $10

Same with four horses with driver, premium, $10

PLOUGHING WITH SWIVEL PLOUGH.—One-sixth of an acre, either with double or single ox-team, double teams at least eight inches deep, single teams six inches, premiums, $12, $10, $8

Same with Horse teams, consisting of two horses, ploughing at least six inches deep, premiums, $10, $6

PLOUGHING—SULKY PLOUGH.—For the best performance, taking into account ease of draft, amount and quality of work, premiums, $10, $8

HARROWS.—For the best Harrow exhibited and its merits shown by actual test upon the ploughed ground, premium, $10

NOTE.—Entry must be made with the Secretary before the day of the trial with description of Harrow.

AGRICULTURAL IMPLEMENTS.

For the best collection of Implements and Machines (no article offered in *collection* will be entitled to a separate premium), Diploma and $10

Best Market Wagon, premium, $5
Best Farm Wagon for one or two horses, premium, $3
Best Horse Cart, premium, $5
Best Hay, Straw, or Corn Cutter, premium, $1.50
Best Ox Yoke, complete, premium, $1.50
Best Fruit Evaporator, with sample of work, premium, $5
Best set of Horse Shoes, including those for over-reaching, interfering, and stumbling horses, premium, $5
For implements not specified above the Committee may at their discretion award $40

No premium or gratuity will be awarded for any Mower, Horse Rake, Tedder, or other Machine or Implement, the merit of which can be known only by actual trial in the field; but manufacturers are invited to offer the same for exhibition and inspection.

CARRIAGES.

For Carriages, built in the County, and exhibited by the manufacturer, diploma, and thirty dollars in gratuities, may be awarded by the Committee.

In Exhibition Hall.

Committees on articles exhibited in the hall should be specially careful that the premium cards issued correspond with the names and sums in their reports to the Society.

Committees and Exhibitors will be governed by instructions under heading of "Duties of Committees," "General Rules," "Premiums to be awarded at the Show," see first pages, and under "Fruit" and "Domestic Manufactures."

DAIRY.

For specimens of Butter made on any farm within the County the present year, samples not less than five pounds to be exhibited, with a full account of the process of making and management of the Butter, premiums, $8, $6, $4

For specimens of New Milk Cheese, made on any farm in the County, the present year, samples of not less than fifty pounds to be exhibited, with statement in writing of the method of making and preserving the same, premiums, $8, $6, $4

NOTE.—Each lot presented for premium and the statement accompanying it, must be numbered, but not marked so as to indicate the claimant; any public or known mark must be completely concealed; nor must the competitors be present at the examination.

To the person who shall furnish to the Society satisfactory evidence of the greatest amount of Butter made from any quantity of milk, being the whole produce of any single cow, for the first week

of June, July, August and September next, stating the whole amount of Butter produced in each week, and also the time when the cow dropped her last calf, and her feed and management all to be taken into account in making the award, premiums,
Diploma and $10, $5

NOTE —The object in offering this last premium is to elicit inquiry as to the value and quality of milk for the production of butter. As far as practicable it is desirable that the race and pedigree of the cow should be given.

BREAD, HONEY AND CANNED FRUIT.

For White Bread made of wheat flour raised by yeast, premiums, $3, $2, $1

For yeast bread made from Graham flour, premiums, $2, $1

For yeast bread made from other grains, or other grains mixed with wheat, premiums, $1.50, $1

Special Premiums offered by N. N. Dummer, Glen Mills, Rowley. For the Graham Bread made from "Glen Mills Improved Graham" and raised by yeast, premiums, $5, $2.50, $1

All bread, entered for premiums, to be in loaves weighing not less than one pound each, and to be not less than 24 hours old, with a full written statement over the signature and address of the maker, stating the kind of flour used, quantity of each ingredient, how mixed and length of time kneaded and raised, and how long baked, *which statements on all premium bread are to be sent to the Secretary with report of the Committee for publication.*

For first and second best display of Bees, Hives and Apiarian Implements, to be accompanied with a description of the bees, hives, etc., number of hives in use and amount of surplus honey taken from them during the season, premiums, $5, $3

First and second best Honey, ten pounds in comb and one pound of same extracted, made in the County, with statement signed of kind of bees and hive and time of year when honey was made, premiums, $3, $2

For first and second best collection of Pickles, Preserved Fruits and Jellies, made from products of the County, *when premiums are awarded, the method of making to be sent to the Secretary by the Committee for publication*, premiums, $3, $2

For the first and second best five pounds of Dried Apples, grown and dried within the County, with statement of process used and amount of labor and time required in preparing and drying, *such statement on premium fruit to be given to the Secretary for publication*, premiums, $3, $2

In addition to the above, are placed in the hands of the Committee for gratuities on other articles entered in this department, products of this County deemed worthy, $5

Fruit.

All fruit must be entered in the name of the grower before 11 o'clock on the first day of the exhibition, and each exhibitor must certify to the same on the Entry Book, or lists of the varieties of each class of fruit to be filled when entry is made. (Committees are not authorized to make awards to those who do not comply with this rule.)

Tables will be labelled in a *conspicuous manner* by the hall committee, *before the entry of Exhibitors*, with the names of fruit, for which premiums are offered, all others of same class of fruit to be labelled miscellaneous. Exhibitors must place their several varieties of each class of fruit where indicated by such labels, or be considered by the committee as not competing for premium.

Plates of collections of fruit, when premiums are offered therefor, must be entered and placed by the exhibitor on the table assigned for the exhibit of that class of fruit.

To entitle exhibitors to receive premiums and gratuities awarded, they are required (when requested by the committee) to give information in regard to the culture of their fruit.

PEARS.

For best twelve specimens of the following varieties, which are recommended for cultivation in Essex County: Bartlett, Belle Lucrative, Bosc, Anjou, Angouleme, Dana's Hovey, Lawrence, Louise Bonne, Maria Louise, Onondaga, Paradise d'Automne, Seckle, Sheldon, Unbaniste, Vicar, Doyene de'Cornica, Howell, Hardy and Clairgeau, each, $3

Doyenne d'Ete, Gifford and Clapp's Favorite (ripening early) are recommended for cultivation, but no premium is offered.

For each dish of twelve best specimens of any other varieties, deemed worthy by the committee, $1.50

For best collection of Pears, premium, $6

In addition to the above, are placed at the disposal of the committee, to be awarded in gratuities of not less than $1 each, $20

APPLES.

For best twelve specimens of the following varieties, which are recommended for cultivation in Essex County: Baldwin, Danvers Sweet, Tompkins County King, Granite Beauty, Red Russet, McCarty, Tolman's Sweet, Bailey's Sweet, Drap d'Or, Hubbardston, Hurlburt, Porter, Pickman's Pippin, Roxbury Russet, Rhode Island Greening, Sweet Baldwin, Gravenstein, Hunt's Russet, Smith's Cider, premium for each, $3

Red Astrachan, William's Favorite, Tetofsky and Sweet Bough are recommended for cultivation, but no premium is offered (ripening early).

For best twelve specimens of any other varieties deemed worthy by the committee, premium for each variety, $1.50

For best collection of Apples, $6

For best twenty-four specimens of any variety of Crab Apple deemed worthy by the committee, $1.50

In addition, are placed at the disposal of the committee, to be awarded in gratuities of not less than $1 each, $20

PEACHES, GRAPES AND ASSORTED FRUITS.

For best nine specimens of Freestone White Flesh, Yellow Flesh, Essex County Seedling, each variety, $2

For best collection of Peaches, premium, $3

For best four bunches of Concord, Worden's Seedling, Brighton,

Hartford Prolific, Delaware, Martha, Moore's Early, Niagara, each variety, $3

For Cold House Grapes, produced with not over one month's artificial heat, premiums, $6, $4

For best collection of ten varieties, not less than ten pounds in all, premium, $7

For best specimens of four bunches of other varieties deemed worthy by the committee, premium, $1.50

For baskets of Assorted Fruit, premiums, $4, $3

In addition, are placed at the disposal of the committee, to be awarded in gratuities of not less than 50 cents each, $25

FLOWERS.

For displays of Foliage Plants in pots, at least ten specimens, premiums, $3, $2

For best pair of Parlor Bouquets of choice flowers, premium, $3

For best pair of Hand Bouquets of choice flowers, premium, $2

For displays of Cut Flowers, premiums, $3, $2

For best four Ferns in pots, premium, $1

For best four Gloxinias in pots, premium, $1

For best four Coleus in pots, premium, $1

For best specimen of any species of Begonia in pot, premium, $1

For best grown Pot Plant of any species, not from a greenhouse, premium, $1

For best Bouquet of Garden Flowers, premium, $1

For best arranged Basket of Garden Flowers, premium, $1

For best twelve garden Dahlias, six varieties, premium, $1

For best twelve Bouquet Dahlias, six varieties, premium, $1

For best twelve Single Dahlias, raised from seed by exhibitor, premium, $1

For best twenty-four Asters, six varieties, premium, $1

For best twelve Carnation Pinks, four varieties, premium, $1

For best twelve spikes of Gladiolus, four varieties, premium, $1

For best twenty-four Petunias, six varieties, premium, $1

For best twenty-four Verbenas, six varieties, premium, $1

For best twenty-four Double Zinnias, four varieties, premium, $1

For best twenty-four French and African Marigolds, six varieties, premium, $1

For best twelve Calendulas or Pot Marigolds, two varieties, premium, $1

For best twelve Japan Lilies, two varieties, premium, $1

For best twelve trusses of Geraniums, four varieties, premium, $1

For best twelve trusses of Garden Phlox, four varieties, premium, $1

For best collection of Drummond's Phlox, six varieties, premium, $1

For Mourning Bride, four varieties, premium, $1

For Nasturtiums, four varieties, premium, $1

For Pansies, six varieties, premium, $1

For Everlastings, six varieties, premium, $1

For Garden Annuals, six specimens of at least ten varieties, premium, $1

For Roses, three varieties, premium, $1

For best Floral Design of choice flowers, premium, $2

For collections of Native Plants, to be marked with the correct botanical and common names, and neatly displayed in separate bottles, premiums, $5, $3

For best arrangement of Native Flowers and Autumn Leaves, premium, $2

In gratuities to contributors in this department, as the articles may seem to merit, will be awarded, $20

Special Premium, offered by M. B. Faxon of Saugus. For the best display of Asters, filling 25 of the Society's bottles, $5

1. Every plant or flower entered for premium (except native flowers) must be grown by the exhibitor.

2. No premium shall be awarded unless the specimens exhibited are of average excellence and worthy of such premium.

3. No specimen entered for one premium shall be admitted in competition for another different premium.

VEGETABLES.

Rules for Fruit apply to Vegetables.

Beets—For best twelve specimens, Eclipse, Dewing, and Edmands, premium, each, $3

Carrots—For best twelve, short top, long Orange and Danvers Intermediate, premium, each, $3

For best twelve, Short Horn Orange Carrots, premium, $3

Mangold Wurtzels—For best six specimens, premium, $3

Flat Turnips—Twelve specimens. For best Purple Top and White Flat, premium, each, $3

Ruta Bagas—Twelve specimens. For best Yellow and White, premium, each, $3

Parsnips—For best twelve specimens, premium, $3

Onions—One peck. For best Danvers, Yellow Flat and Red, premium, each, $3

Potatoes—One peck. For best Early Rose, Beauty of Hebron, Clark's No. 1, Pearl of Savoy, Early Maine, premium, each, $3

Cabbages—For best three specimens Savoy, Fottler's Drumhead, Stone Mason Drumhead, Red Cabbage, each variety, premium, $3

For next best, each variety, premium, $2

Cauliflowers—For best three specimens, premium, $3

For next best, premium, $2

Celery—For best four roots, premium, $2

Sweet Corn—For twelve ears ripest and best Early, premium, $3

For best twelve ears in milk, Late, premium, $3

Squashes—For best three specimens Marrow, American Turban, Hubbard, Marblehead, Essex Hybrid, Bay State, each variety, premium, $3

Melons—For best three specimens Nutmeg, Musk, Cassaba, each, premium, $2

For best two specimens Watermelons, premium, $2

Tomatoes—For best twelve specimens Round, Flat, Spherical, Essex Hybrid, or any other variety, each variety, premium $3

For exhibition of greatest variety, premium, $3

Cranberries—For pecks of cultivated, premiums, $3, $2, $1

For collections of vegetables, premiums, $8, $6, $4, $2

Placed at the disposal of this committee for whatever appears meritorious, $30

☞No competitor for premium to exhibit more or less number of specimens of any vegetables than the premiums are offered for.

Collections of Vegetables, where premiums are offered for a number of varieties, must be entered and placed by themselves on the tables assigned for collections. No collection shall receive but one premium. Specimens of any variety in such collections are not to compete with specimens of the same variety placed elsewhere. Exhibitors of such collections, however, are not prevented from exhibiting *additional* specimens of any variety, with and in competition with like variety. All vegetables must be entered in the name of the grower of them.

Size of Vegetables.—Turnips Beets to be from 3 to 5 inches in diameter; Onions, 2 1-2 to 4 inches in largest diameter; Potatoes to be of good size for family use; Squashes to be pure and well ripened—Turban, Marrow, Hubbard, Marblehead, each to weigh 8 to 16 lbs.

GRAIN AND SEED.

For best peck of Shelled Corn, Wheat, Oats, Barley, Rye and Buckwheat, each, premiums, $1
For 25 ears of Field Corn, premiums, $5, $3, $2
For 25 ears of Pop Corn, premiums, $3, $2
For collections of Field and Garden Seeds, premiums, $8, $6, $4, $2

All grain or seed must have been grown by the exhibitor in the County to receive premium.

Domestic Manufactures.

Contributors must deposit their articles at the Hall before 11 o'clock on the first day of the Exhibition. Articles not thus deposited will not be entitled to a premium. Gratuities will be awarded for articles of special merit for which no premium is offered; but no premium or gratuity will be awarded for any article manufactured out of the County, or previous to the last Exhibition of the Society.

COUNTERPANES AND AFGHANS.

For Wrought Counterpanes having regard to the quality and expense of the material, premiums, $4, $2
Gratuities will be awarded for articles belonging to this department, the whole amount of gratuities not to exceed $25

CARPETINGS AND RUGS.

For Carpets, having regard to the quality and expense of the material, premiums, $4, $2
For Wrought Hearth Rug, having regard both to the quality of the work and expense of the materials, premiums, $3, $2
Gratuities will be awarded for articles belonging to this department, the whole amount not to exceed $25

ARTICLES MANUFACTURED FROM LEATHER.

For best pair hand made and machine made Men's Boots, Women's do., Children's do., each, $2
Best Team, Carriage and Express Harness, each, $5
$10 are placed at the disposal of this committee, to be awarded in gratuities.
For the best exhibitions of Boots, and of Shoes, manufactured in the County, each, premium, Diploma of Society.

MANUFACTURES AND GENERAL MERCHANDISE.

For displays of Bonnets, premiums, $4, $2
For Horn Combs, not less than one dozen, premium, $3
At the disposal of the committee in this department, to be awarded in gratuities not exceeding $3 in any one gratuity, $20
FANCY WORK AND WORKS OF ART, and other articles of Domestic Manufacture not included in the above.
At the disposal of the committee in this department, to be awarded in gratuities not exceeding $3 in any one gratuity, $50
WORK BY CHILDREN UNDER TWELVE YEARS OF AGE. For specimens of work performed by children under 12 years of age, exhibiting industry and ingenuity, premiums, $3, $2
At disposal of committee to be awarded in gratuities, $10

List of Premiums to be Awarded by the Trustees in November.

FARMS.

Competitors for these premiums must give notice of their intention to the Secretary on or before June 15th, and the farms entered for premium will be viewed by the committee twice during the year. Crops growing on farms that are entered for premiums, cannot be entered with another committee for separate premiums—except specimens exhibited at the Fair. Any person desirous of having his farm inspected, without entering it for premium, may make application to the Secretary, and it will be viewed and reported upon by the committee.

Any person entering his farm for premium, may apply to the Chairman of the Committee on Farms, for the appointment of a sub-committee of not less than five in number, to visit his farm and report upon the same.

For the best conducted and most improved farm, taking into view the entire management and cultivation, including lands, buildings, fences, orchards, crops, stock, and all other appendages, with statements in detail, relating thereto, premium, $30

IMPROVING WET MEADOW AND SWAMP LANDS.

For best conducted experiments relating to wet meadow or swamp lands, on not less than one acre, the course of manage-

ment, and the produce, etc., for a period of two years at least, to be detailed, with a statement of all the incidental expenses, premiums, $15, $10

NOTE.—The Committee (when appointed) is instructed to ascertain how many, if any, reclaimed swamps in this County have been abandoned or have returned to natural grasses. Persons knowing of such are requested to notify the Secretary or Committee.

IMPROVING PASTURE AND WASTE LANDS.

For best conducted experiments in renovating and improving pasture land, other than by ploughing, so as to add to their value for pasturage, with a statement of the same, premiums, $15, $10

For best conducted experiments in renovating and improving waste lands so as to add to their agricultural value, with statement of the same, premiums, $15, $10

No premium to be awarded to any person for a repetition of an experiment in meadow, swamp or pasture lands, for which he has already received a premium.

UNDER-DRAINING LAND.

For best conducted experiments in under-draining land, regard being had to the variety of soil, sub-soil, and other local circumstances, premiums, $15, $10

MANURES.

For most exact and satisfactory experiments, in the preparation and application of manures, whether animal, vegetable or mineral, premiums, $15, $10

COMPARATIVE VALUE OF CROPS AS FOOD FOR CATTLE.

For most satisfactory experiment upon a stock of cattle, not less than four in number, in ascertaining the relative value of different kinds of fodder used in feeding neat stock for milk and other purposes, with a statement in detail of the quantity and value of the same, as compared with English hay, premium, $25

FATTENING CATTLE AND SWINE.

For most satisfactory experiments in fattening Cattle or Swine, with a statement in detail of the process and result, premiums, $10, $5

GRAIN AND OTHER CROPS.

Claimants on Grain and Root Crops will be required to state the size of the piece of land, when they enter, and conform to the following rules: Entries of Grain Crops to be made on or before September 10th; Root Crops on or before October 10th; giving ample time for the crops to be examined by the committee before harvesting. Statement, to be made in conformity with the following form, must be forwarded to the Committee previous to November 1st.

All calculations and figures given in reports of, and statements of Crops are to be made on the *basis of an acre*, results, in all cases, to be given at the rate per acre.

In pursuance of authority delegated to the Board of Agriculture by Chap. 24 of Acts of 1862, Agricultural Societies receiving the bounty of the State are required to make use of the following form, and be governed by its conditions in the mode of ascertaining the amount of crops entered for premium.

ESSEX AGRICULTURAL SOCIETY.—Statement concerning a crop of———, raised by Mr.——, in the town of——, ——, 1887.

What was the crop of 1886? What manure was used and how much? What was the crop of 1887? What manure was used and how much? What is the nature of the soil? When, and how many times ploughed, and how deep? What other preparation for the seed? Cost of ploughing and other preparation? Amount of manure, in loads of thirty bushels, and how applied? Value of manure upon the ground? (What amount of Commercial Fertilizer used? How used? Value of same when applied?) When and how planted? The amount and kind of seed? Cost of seed and planting? How cultivated, and how many times? Cost of cultivation, including weeding and thinning? Time and manner of harvesting? Cost of harvesting, including the storing and husking or threshing? Amount of crop, etc. Signed by ——, Competitor.

The committee, to whom is entrusted the award of the premiums on field crops, may award them according to their judgment, but for the purpose of furnishing accurate statistics for the benefit of agriculture, shall select certain of the crops, and require the owners thereof to measure the land and weigh the crops accurately, giving to the committee a certificate of the same, and give all possible information thereon over their own signatures, and return the same to the Secretary of the Society, to be published in the annual transactions.

In ascertaining the amount of crop, any vessel may be used and the weight of its contents once, multiplied by the number of times it is filled by the crop.

In measuring the land, or weighing crops, any competent person may be employed, whether a sworn surveyor or not, and must give certificate.

The certificates shall state the weight of all crops only in a merchantable state.

In ascertaining the amount of a hay crop entered for premium, the measurement of the hay in the barn may be employed.

RULES OF MEASURE PRACTICED AND ADOPTED BY THE STATE BOARD OF AGRICULTURE.

Wheat, Potatoes, Sugar Beets, Ruta Bagas, Mangold Wurtzel, White Beans and Peas,	60 lbs. to bush.
Corn, Rye,	56 " "
Oats,	32 " "
Barley, Buckwheat,	48 " "
Cracked Corn, Corn and Rye, and other meal, except Oats,	50 lbs. to bush.
Parsnips, Carrots,	55 " "
Onions,	52 " "

1. For the best conducted experiments of Rye, not less than twenty bushels to the acre, fifty-six pounds to the bushel, on not less than one acre, premiums, $10, $5

2. For best conducted experiments of Wheat, not less than thirty bushels to the acre, sixty pounds to the bushel, on not less than one acre, premiums, $10, $5

3. For best conducted experiments of Oats, not less than fifty bushels to the acre, thirty-two pounds to the bushel, on not less than one acre, premiums, $10, $5

4. For best conducted experiments of Barley, not less than forty bushels to the acre, forty-eight pounds to the bushel, on not less than one acre, premiums, $10, $5

5. For best conducted experiments of Indian Corn, not less than one acre, premiums, $10, $5

6. For largest quantity and best quality of English Hay, on not less than one acre, regard being had to the mode and cost of cultivation, premiums, $10, $5

7. For best yield of Field Beans, on not less than half acre, and not less than twenty-five bushels per acre, premiums, $10, $5

ROOT CROPS.

1. For best conducted experiments in raising Carrots, fifty-five pounds to the bushel, premiums, $10, $5

2. For best conducted experiments in raising Parsnips, fifty-five pounds to the bushel, premiums, $10, $5

3. For best conducted experiments in raising Ruta Bagas, sixty pounds to the bushel, premiums, $10, $5

4. For best conducted experiments in raising Mangold Wurtzels, sixty pounds to the bushel, premiums, $10, $5

5. For best conducted experiment in raising Sugar Beets, sixty pounds to the bushel, premiums, $10, $5

6. For best conducted experiments in raising Onions, fifty-two pounds to the bushel, premiums, $10, $5

7. For best conducted experiments in raising Potatoes, sixty pounds to the bushel, premiums, $10, $5

8. For best conducted experiments in raising Cabbages, premiums, $10, $5

9. For best conducted experiments in raising Squashes, premiums, $10, $5

10. For best conducted experiments in raising Summer English Turnips for the market, premiums, $10, $5

Raised on not less than half an acre, and the quantity of crop to be ascertained by weight, so far as practicable, the crops to be free from dirt, without tops, and in a merchantable condition at the time of measurement.

Claimants for premiums on Grain or Root Crops must forward statement to chairman of committee before Nov. 1st.

FOREST TREES.

1. For best plantation of either of the following species of forest trees, viz.:—White Oak, Yellow Oak, Locust, Birch, White Ash, Maple, Walnut, or White Pine, not less than three years old, and not less than 1000 trees, premium, $20

2. For best do., of not less than 600 trees, premium, $10
3. For best lot of ornamental trees, ten or more set on any street, road or farm, and cared for five years, premium, $10

CRANBERRIES.

For best conducted experiment in the cultivation of the Cranberry, at least two summers, on not less than twenty rods of land, with written statement of the quantity and quality of land, expense of planting, weeding and culture, and amount of crops produced. Premium to be paid in 1888 or 1889, $15

For best experiment do., on not less than ten rods of land, premium, $10

For best do., on not less than five rods of land, premium, $10

STRAWBERRIES AND OTHER SMALL FRUITS.

For best crop of Strawberries, on not less than twenty rods of land, expense of planting, culture, crop, etc., stated in writing, premium, $10

For best crop Currants, Raspberries and Blackberries, with statement as above, premiums, each, $10

NEW WINTER APPLES.

For a new variety of Winter Apple, originated in this County, equal or superior to the Baldwin, premium, $100

For a new variety of like character originating elsewhere, *provided* it has been cultivated in the County sufficiently to prove it equal or superior to the Baldwin for general purposes, premium, $20

For a successful experiment in destroying the codling moth and other worms destructive to the apple, premium, $25

NOTE.—Persons wishing to compete for above must notify Secretary, and furnish scions when called for under his direction, to be tested by the Society.

SEEDLING POTATOES AND EXPERIMENTS.

For best Seedling Potato, originating in Essex County, to equal in yield, earliness and quality, the Early Rose, and to surpass it in one or more of these particulars, premium paid after three years trial, $25

In testing the value of a seedling Potato, the committee are instructed to take the sworn testimony of the cultivator with regard to the yield, after having inspected the crop.

For the most satisfactory experiment to extend through five consecutive years, to settle the following facts relative to raising potatoes:—premium, $50

1st. Will whole, medium sized Potatoes, yield better results than pieces cut to two eyes?

2d. What will be the result of continuously planting small-sized potatoes of the same strain a series of years?

3d. Difference between hilling and flat cultivation.

4th. Effect, if any, of cutting off seed ends before planting.

5th. Effects of deep and shallow planting.
6th. Raising from sprouts alone from same strain.
7th. Can potatoes having dwarf vines be planted nearer than others?
8th. Best distance apart for seed in the drill.
9th. To show the effect of covering the top with earth at several times after they had come up.

To be raised on not less than a half-acre of land, uniform in character, and all to receive the same kind and quality of manure and cultivation, and to be inspected by the committee at the time of gathering the crops.

NEW MEMBERS.

For the person who obtains the largest number of new members for the Society from any Town or City before the first day of November next, $6

NOTE.—Names of new members, with name of person procuring them, can be sent as fast as obtained, to the Secretary of the Society, who will make a record of them.

Persons paying three dollars will receive a "Certificate of Membership," which is for life. No fines or assessments are ever imposed and members are entitled to vote in all its transactions, with free use of the Library and a copy of the publication of the Society each year.

ESSAYS AND FARM ACCOUNTS.

The Essays must be transmitted to the Secretary by the 1st of November, with sealed envelopes containing the names of their authors, respectively, which shall not be opened by the committee, nor shall the names be known to the committee until they shall have decided upon the merits of the Essay.

For original Essays on any subject connected with Agriculture, in a form worthy of publication, premiums, $15, $10, $8

For best statement of Actual Farm Accounts, drawn from the experience of the claimant, in a form worthy of publication, premium, $10

For Reports of Committees, who report upon subjects for which premiums are offered by the Society, premiums, $10, $8, $6

For Statements of Exhibitors, premiums, $8, $4

COMMITTEES.

Committees for Judges, and Arrangements for the next Cattle Show and Fair, are chosen at the Trustees' Meeting in June next.

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*Died at Haverhill July 14, 1887, William Jeffers, age 68, and Sept. 21, 1887, Timothy J. Goodrich, age 87. Notice of these deaths was received from the Trustee at Haverhill too late to be given elsewhere, and more in detail.

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